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ABSTRACT

This publication includes reports of research on children in progress or recently completed from September 1974 through February 1975. Each entry includes information concerning the investigator, purpose, subjects, methods, duration, cooperating groups, and findings (if available). The reports are listed under several topical headings: (1) long-term research, (2) growth and development, (3) special groups of children, (4) the child in the family, (5) socioeconomic and cultural factors, (6) educational factors and services, (7) social services, and (8) health services. In addition to the reports on research, an extensive bibliography on the social development of children is included. (BRT)

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Bulletin 34

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ERIC Clearinghouse on Early Childhood Education

ERIC CLEARINGHOUSE
ON EARLY CHILDHOOD EDUCATION

University of Illinois
805 West Pennsylvania Avenue
Urbana, Illinois 61801

Lilian G. Katz
Director

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RESEARCH RELATING TO CHILDREN

Bulletin 34

Prepared by

Dorothy O'Connell
Marilyn Terrill
Charlene Brash-Sorensen

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September 1974-February 1975

ERIC Clearinghouse on Early Childhood Education

NOTES: *Research Relating to Children* is prepared by the ERIC Clearinghouse on Early Childhood Education under the direction of Lilian G. Katz, Ph.D. Investigators who wish to submit abstracts of their research projects should address correspondence to:

Research Relating to Children
ERIC Clearinghouse on Early Childhood Education
University of Illinois
805 West Pennsylvania Avenue
Urbana, Illinois 61801

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PREFACE

Research Relating to Children, Bulletin 34 includes reports of research in progress recently completed research. With the exception of the section on Long-Term Research, it does not repeat studies included in *Bulletins 3* through *33* even though they are still in progress. This issue, therefore, does not reflect all research relating to children, but only research reported to us from September 1974 through February 1975.

In addition to reports of current research, *Bulletin 34* contains *Social Development of Children: A Bibliography,* which updates previous ERIC Clearinghouse on Early Childhood Education bibliographies on the subject. The bibliographic sources include ERIC documents, journal articles, books, and pamphlets that we hope you will find useful.

Publication references and plans are cited in the abstracts of research in the bulletin. The Clearinghouse, however, does not maintain information on the publications of the investigators. If you wish to obtain further details about any of the projects, please check professional journals in the appropriate field or write directly to the investigator.

We wish to thank investigators who have submitted reports of their research and those who have informed us of other studies. We wish to acknowledge the valuable assistance of the Science Information Exchange and the foundations that provided us with information about their research grants.

Lilian G. Katz, Ph.D.
Director
ERIC Clearinghouse on Early Childhood Education

To Research Investigators:

This publication is only as complete as you are willing to make it. On page 172 you will find a form for reporting your current research. On page 176 you will find a form to let us know of other investigators who are working in the field. Please let us hear from you.

Research Relating to Children
ERIC/ECE
805 West Pennsylvania Avenue
Urbana, Illinois 61801

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SOCIAL DEVELOPMENT OF CHILDREN: A BIBLIOGRAPHY

This selective bibliography on the social development of children is divided into a section on Books and ERIC Documents and a section on Journal Articles. Books are available in libraries or may be obtained from publishers whose addresses are listed in the bibliography. ERIC documents, denoted by ED numbers in the bibliography, may be ordered from Computer Microfilm International Corporation (see order blank following bibliography). ERIC documents may be ordered on microfiche (MF) or on hard copy (HC). To read MF (a transparent film card), use a microfiche reader, available in most libraries. HC is a photocopy of the original document. Journal articles may be found in periodicals in libraries.

Citations of ERIC documents appeared in *Research in Education (RIE)* and citations of journal articles appeared in *Current Index to Journals in Education (CIJE)* from April 1974 through December 1974. Major descriptors (marked with asterisks) and minor descriptors appear under each citation. Descriptors with asterisks denote the document's major subject matter; terms without asterisks suggest topics of lesser import that are covered in the document. Index terms used to search *RIE* and *CIJE* for this bibliography include Interaction Process Analysis, Interpersonal Competence, Peer Relationship, Social Attitudes, Social Behavior, Social Development, Socialization, Social Relations, and Sociometric Techniques.

Readers interested in resources published previously are referred to *Social Development and Behavior: An Abstract Bibliography* by M. Christine Shea, which includes *RIE* and *CIJE* citations from January 1970 through March 1974 (see Shea citation in this bibliography).

Books and ERIC Documents

Adkins, Dorothy C. Exploratory work on an objective-projective test of factors of moral development in young children. August 1973, 7 pp. ED 086 353.

Altruism, Factor Analysis, *Moral Development, *Preschool Children, *Psychological Testing, Self Esteem, Social Behavior, *Social Development, *Test Construction, Test Reliability

Anderson, Mary Lou S. Touching: Communication during a quiet activity. Occasional paper No. 11. July 1973, 52 pp. ED 094 878.

Affective Behavior, Age Differences, Classroom Observation Techniques, Concept Formation, *Kindergarten Children, *Nonverbal Communication, *Peer Relationship, *Preschool Children, Research, *Sensory Experience, Tables (Data)

Balthazar, Earl E. Balthazar scales of adaptive behavior: II. Scales of social adaptation. October 1973, 45 pp. Available from Consulting Psychologists Press, Inc., 577 College Avenue, Palo Alto, California 94306 (Specimen Set, $5.00, 15% mailing charge).

Adjustment (to Environment), *Behavior Rating Scales, Check Lists, Data Collection, *Emotionally Disturbed, Evaluation Techniques, Manuals, *Mentally Handicapped, Mental Retardation, Observation, Professional Personnel, Program Development, Program Evaluation, Scoring, Social Adjustment, *Social Behavior, Subprofessionals

Barker, William F. Evaluation methods and procedures in a therapeutic nursery program. August 1973, 5 pp. ED 087 811.

Cognitive Development, *Emotional Development, Evaluation Methods, *Intellectual Development, *Interpersonal Relationship, Parent Child Relationship, Parent Child Relationship, Peer Relationship, *Preschool Children, *Preschool Evaluation, Preschool Tests, Social Adjustment, Student Teacher Relationship, Therapeutic Environment

Boger, Robert P. *et al.* Individual differences in social behavior of preschoolers as a function of educational intervention. February 1973, 7 pp. ED 086 360.

Altruism, Curriculum, *Individual Differences, *Intervention, *Preschool Children, Self Concept, Social Attitudes, *Social Behavior, Sociodrama, Teacher Role

Bronfenbrenner, Urie. Studies in group upbringing. Final report. 1974, 163 pp. ED 093 796.

Behavior Patterns, *Child Development, *Child Rearing, *Collective Settlements, Family Relationship, *Group Experience, Parent Role, Peer Relationship, Research Projects, Social Development, *Socialization

Brophy, Jere E. and Good, Thomas L. *Teacher-student relationships: Causes and consequences.* 1974, 400 pp. Available from Holt, Rinehart and Winston, 383 Madison Avenue, New York, New York 10017 ($5.95).

Bias, Classroom Communication, Classroom Observation Techniques, *Classroom Research, Educational Research, * Expectation, Individual Differences, *Interaction Process Analysis, Research Reviews (Publications), Sex Differences, Social Psychology, Student Behavior, *Student Teacher Relationship, Surveys, *Teacher Attitudes

Brunner, Joan Caroline and Starkey, John. Interpersonal relationships and the self-concept. 1974, 6 pp. ED 089 515.

Average Students, Emotionally Disturbed, *Exceptional Child Research, *Interpersonal Relationship, Learning Disabilities, *Remedial Instruction, *Secondary School Students, *Self Concept

Bryan, Tanis H. Social factors in reading disability. April 1974, 14 pp. ED 090 529.

Exceptional Child Education, Exceptional Children, *Learning Disabilities, *Peer Relationship, Racial Discrimination, *Reading Difficulty, Sex Discrimination, Social Behavior, *Social Problems, Social Relations

Bryant, Brenda K. *et al.* The educational context for the study of cooperation and helpful concern for others. April 1974, 25 pp. ED 091 315.

Grade 4, *Group Activities, *Individual Activities, *Interpersonal Relationship, *Learning, *Student Reaction

Caplan, Paula J. Sex differences in determinants of antisocial behavior. August 1973, 14 pp. ED 087 566.

Academic Achievement, Aggression, Antisocial Behavior, Classroom Observation Techniques, *Elementary School Students, Moral Development, *Motivation, Reactive Behavior, *Sex Differences, *Social Behavior, *Social Reinforcement

Child Development Services Bureau, Washington, D. C. A report on two national samples of Head Start classes: Some aspects of child development of participants in full year 1967-68 and 1968-69 programs. Appendixes. Final report. December 1972, 75 pp. ED 091 443.

Achievement Gains, Child Development, *Classroom Environment, *Cognitive Development, Culturally Disadvantaged, Emotional Development, *Family Characteristics, Family Environment, Parent Child Relationship, Parent Influence, *Preschool Children, Preschool Evaluation, *Social Development, Tables (Data), Teacher Characteristics

Childress, Marilyn O. *et al.* Preliminary investigation into moral behavior with an emphasis upon perception of physical contact by five year olds. Occasional paper No. 1. June 1972, 56 pp. ED 094 873.

*Affection, Bibliographies, Childhood Attitudes, Comparative Analysis, *Interpersonal Relationship, *Moral Values, Motivation, *Pictorial Stimuli, *Preschool Children, Research, Research Problems, Tables (Data)

Cincinnati Public Schools, Ohio. Impact of a preschool and interracial program. Project termination report. August 1973, 114 pp. ED 093 480.

Academic Achievement, *Cognitive Development, Intelligence Quotient, Intervention, Longitudinal Studies, Parent Attitudes, Parent Education, *Preschool Education, *Preschool Evaluation, Questionnaires, *Race Relations, Racial Differences, Readiness, Self Concept, *Social Development, Standardized Tests

Coates, Brian *et al.* Racial preferences in the behavior of black and white children. 1972, 16 pp. ED 086 361.

*Childhood Attitudes, *Elementary School Students, Grade1, Grade 2, Interpersonal Relationship, *Racial Discrimination, *Socialization, *Sociometric Techniques

Collins, W. Andres and Berndt, Thomas J. Social inferences and social behavior: Developmental aspects of the relationship between thought and action. August 1973, 15 pp. ED 087 559.

Adolescents, *Age Differences, *Behavior Development, *Cognitive Processes, Elementary School Students, Learning Processes, Moral Development, *Observational Learning, *Social Behavior, Socialization

Comstock, Margaret E. Building blocks for peace: "Love is a thing to be learned." 1974, 18 pp. ED 090 092.

Audiovisual Aids, Emotional Development, Family Role, Films, *Friendship, *Human Relations, Interpersonal Competence, Kindergarten, Learning Activities, Moral Values, *Peace, Reading Materials, Resource Materials, Self Concept, *Social Development, Social Relations, Teacher Developed Materials, *Values

Cusick, Philip A. and Ayling, Richard J. An exploratory study of the formal and informal relationships between white and black students in a racially mixed, urban, secondary school. February 1973, 185 pp. ED 095 245.

Caucasian Students, *High Schools, Integration Effects, Negro Students, Observation, Organizational Climate, Participation, *Race Relations, *Research Methodology, *School Integration, School Organization, School Visitation, *Social Relations, Student Attitudes, Urban Schools

Daily, Frances M. Predicting social structure from the sociometric question. 1972, 12 pp. ED 086 344.

Classroom Communication, *Classroom Environment, *Elementary School Students, *Interpersonal Relationship, Mental Health, *Peer Relationship, Self Concept, Social Behavior, *Sociometric Techniques

Damico, Sandra and Watson, Kathy. Peer helping relationships: An ecological study of an elementary classroom. April 1974, 28 pp. ED 090 458.

*Cross Age Teaching, Group Relations, Helping Relationship, *Peer Relationship, *Peer Teaching, Research Projects, *Self Directed Classrooms, *Student Centered Curriculum

DeVries, David L. *et al.* Team competition effects on classroom group process. Report No. 174. April 1974, 48 pp. ED 093 885.

*Activities, *Class Activities, Group Behavior, High Schools, *Interpersonal Relationship, *Peer Relationship, *Teamwork

Dragsten, Susan S. and Lee, Lee C. Infants' social behavior in a naturalistic vs. experimental setting. (No date). 15 pp. ED 086 366. Not available in hard copy.

Age Differences, Behavior Development, *Day Care Programs, *Infants, Observation, *Social Behavior, Social Development

Dreitzel, Hans Peter (Ed.) *Childhood and socialization. Recent Sociology No. 5.* 1973, 378 pp. Available from Collier Books, 866 Third Avenue, New York, New York 10022 ($2.95).

Academic Achievement, Child Development, Child Rearing, Collective Settlements, *Early Childhood, *Educational Sociology, Educational Television, Family Environment, *Family (Sociological Unit), Interaction Process Analysis, Models, School Role, *Social Development, *Socialization, Violence

Durfee, Joan T. and Lee, Lee C. Infant-infant interaction in a daycare setting. August 1973, 15 pp. ED 087 563.

Age Differences, Behavior Development, *Individual Differences, *Infants, *Interaction Process Analysis, Measurement, *Observation, Peer Relationship, *Social Behavior

Edwards, Peter. An interaction-network instrument to assess pupil-interaction and movement in open-area learning situations. July 1973, 34 pp. ED 086 741.

Classroom Environment, *Classroom Observation, Elementary Schools, Evaluation Techniques, *Interaction Process Analysis, Intermediate Grades, Observation Techniques, *Open Plan Schools, Peer Relationship, Student Behavior, Student Evaluation, *Student Mobility

Fiene, Richard John. Movement versus time spent in verbalizations in family and group day care centers. June 1972, 12 pp. ED 094 848.

Activities, *Day Care Programs, *Interaction Process Analysis, *Motion, *Preschool Children, Preschool Learning, Research, *Verbal Communication

Gable, Robert K. and Weinland, Thomas P. Self concept: A cross cultural study. February 1973, 16 pp. ED 086 351.

*Cross Cultural Studies, *Cultural Differences, *Elementary School Students, Environmental Influences, *Self Concept, Sex Differences, *Social Development

Gay, Geneva. Differential dyadic interactions of black and white teachers with black and white pupils in recently desegregated social studies classrooms: A function of teacher and pupil ethnicity. Final report. January 1974, 371 pp. ED 091 489.

*Classroom Integration, *Classroom Observation Techniques, Classroom Research, Elementary School Teachers, *Interaction Process Analysis, Public Schools, *Racial Discrimination, Role Perception, School Integration, Secondary School Teachers, Social Studies, Student Attitudes, *Student Teacher Relationship, Teacher Attitudes

Gilbert, Katherine J. The human relations class at Sir Winston Churchill Secondary School. Research report. July 1972, 24 pp. ED 087 817.

*Classroom Environment, Course Evaluation, Experimental Programs, *Human Relations, *Interpersonal Relationship, *Secondary School Students, Self Directed Classroom

Greenberg, Selma B. and Peck, Lucy F. A study of preschoolers' spontaneous social interaction patterns in three settings: All female, all male and coed. April 1974, 4 pp. ED 092 254.

*Behavioral Science Research, *Behavior Patterns, Peer Relationship, *Preschool Children, *Sex Role, *Social Behavior

Hoffman, Martin L. Toward a developmental theory of prosocial motivation. August 1972, 19 pp. ED 085 106.

Affective Behavior, *Behavior Development, Behavior Patterns, *Concept Formation, *Early Childhood, Empathy, Learning Processes, *Motivation, Role Perception, Social Behavior, *Socialization

Johnson, David L. Teacher-pupil interaction in bilingual elementary school children. March 1974, 32 pp. ED 089 900.

*Bilingual Schools, Classroom Observation Techniques, Communication (Thought Transfer), *Elementary Schools, Ethnic Relations, Expectation, *Interaction Process Analysis, *Mexican Americans, Research Projects, Student Behavior, *Student Teacher Relationship, Tables (Data), Tape Recordings, Teacher Behavior, Tests, Verbal Communication

Johnson, William C. (Ed.) *Child development and learning.* 1973, 193 pp. Available from MSS Information Corporation, 655 Madison Avenue, New York, New York 10021 ($10.00).

*Achievement, *Child Development, *Cognitive Development, Creativity, Curriculum, Disadvantaged Youth, Intelligence, *Learning, *Social Development, Teacher Role, Textbooks

Kimbrough, Jackie *et al.* Children's collective training manual. 1974, 36 pp. ED 093 482.

Black Community, Childhood Attitudes, Community Cooperation, *Cooperative Programs, *Day Care Programs, Educational Philosophy, *Group Activities, Group Instruction, Group Relations, Interaction Process Analysis, *Peer Relationship, Role Models, *Social Behavior, Social Psychology, Social Relations, Teamwork

Kyle, David *et al.* Case studies of children in Head Start Planned Variation, 1971-72. 1973, 122 pp. ED 085 095.

*Case Studies, *Classroom Observation Techniques, Cognitive Development, Concept Formation, *Preschool Children, *Self Concept, *Social Development

Livesley, W. J. and Bromley, D. B. *Person perception in childhood and adolescence.* 1973, 320 pp. Available from John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10016 ($16.00).

Adolescents, Age Differences, Elementary School Students, Intelligence, *Literature Reviews, *Perception, *Research Methodology, *Role Perception, Self Concept, Sex Differences, Social Behavior, Social Development, *Socialization

Mayer, Colleen A. *Understanding young children: Emotional and behavioral development and disabilities.* July 1974, 78 pp. Available from Publications Office/IREC, College of Education, University of Illinois, 805 West Pennsylvania Avenue, Urbana, Illinois 61801 (Catalog No. 115, $1.75).

Behavior Problems, Developmental Psychology, *Emotional Development, *Emotionally Disturbed Children, Hyperactivity, Interaction Process Analysis, *Preschool Children, Psychological Patterns, Self Concept, *Social Development, Social Maturity, Student Teacher Relationship, Teacher Role, Teaching Guides, Teaching Methods

Mood, Darlene and Johnson, James. Young children's understanding of the affective states of others: Empathy or cognitive awareness? July 1973, 24 pp. ED 092 216.

*Affective Behavior, Age Differences, Behavior Patterns, Cognitive Processes, *Empathy, Peer Relationship, *Preschool Children, *Self Concept, Self Concept Tests, Sex Differences, *Social Development

Murphy, Lois B. and Leeper, Ethel M. *From "I" to "we." Caring for children No. 8.* 1973, 29 pp. Available from Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 (Stock No. 1790-00014, $0.60).

*Child Care Centers, *Early Childhood Education, Exceptional Child Education, Group Behavior, *Interpersonal Competence, Social Adjustment, *Social Development, *Social Experience

Nowicki, Stephen. Predicting academic achievement of females from a locus of control orientation: Some problems and some solutions. August 1973, 13 pp. ED 087 542.

*Academic Achievement, Adults, Elementary School Students, *Females, *Locus of Control, *Prediction, Predictive Ability (Testing), *Socialization

Osofsky, Joy D. and Danzger, Barbara. Relationships between neonatal characteristics and mother-infant interaction. March 1973, 17 pp. ED 086 323.

Behavior Development, *Behavior Patterns, Correlation, *Infants, Interviews, Measurement, *Mothers, Observation, Parent Attitudes, *Parent Child Relationship, Parent Influence, *Social Development

Parke, Ross D. Family interaction in the newborn period: Some findings, some observations, and some unresolved issues. 1973, 25 pp. ED 093 455.

*Behavioral Science Research, Caucasians, Family Relationship, *Infants, *Interaction Process Analysis, Lower Class Parents, Middle Class Parents, Negroes, *Parent Child Relationship, Parent Role, Sex Differences, *Social Behavior, Socioeconomic Influences

Pepitone, Emmy A. Patterns of interdependence in cooperative work of elementary school children. 1973, 35 pp. ED 091 047.

Behavior Development, *Elementary School Students, *Role Perception, *Sex Differences, *Social Behavior, Social Psychology, *Task Performance

Phatak, Pramila *et al.* A study of adjustment to nursery school through shifts in behavior. Research report No. 2. 1972, 98 pp. ED 094 871.

Behavior Change, *Behavior Patterns, Classroom Observation Techniques, Educational Research, *Indians, *Interaction Process Analysis, Parent Child Relationship, Peer Relationship, *Preschool Children, *Student Adjustment, Student Teacher Relationship, Tables (Data)

Rapier, Jacqueline *et al.* Preschool children's perception of each other in a multicultural classroom. 1972, 19 pp. ED 089 875.

Behavioral Science Research, *Peer Acceptance, *Peer Relationship, *Preschool Children, Race, *Racial Factors, Social Influences, *Socioeconomic Influences, Sociometric Techniques

Raven, Bertram H. Power relations in home and school. April 1974, 27 pp. ED 093 771.

*Behavior Patterns, Decision Making, Educational Sociology, Family Relationship, *Individual Power, *Interpersonal Relationship, Parent Child Relationship, Peer Relationship, *Power Structure, Social Influences, *Social Relations, Student Teacher Relationship

Riendeau, Betty A. An exploratory investigation of the effect of two differing approaches of reading instruction on the self-social concepts of first-grade children. 1973, 248 pp. Available from University Microfilms, A Xerox Company, Dissertation Copies, P. O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 73-27, 706 MFilm, $4.00; Xerography, $10.00).

*Basic Reading, Beginning Reading, Doctoral Theses, Grade 1, *Language Experience Approach, Reading, Reading Instruction, *Reading Research, *Self Concept, Sex Differences, *Social Development, Teaching Methods

Roff, Merrill *et al. Social adjustment and personality development in children.* 1972, 206 pp. Available from University of Minnesota Press, 2037 University Avenue, S.E., Minneapolis, Minnesota 55455. $8.50.

Birth Order, *Elementary School Students, Family Background, Hygiene, Intelligence, Longitudinal Studies, *Peer Acceptance, *Peer Relationship, *Personality Development, Research Methodology, *Social Adjustment, Socioeconomic Status

Seymour, Lowell *et al.* The measurement of program implementation and students' cognitive, affective, and social performance in a field test of the inquiry role approach (1972-73) II. Measurement of social skills and attitudinal development of IRA biology students. April 1974, 17 pp. ED 091 212.

Attitudes, *Biology, *Educational Research, Instruction, Science Education, Secondary School Science, *Social Behavior, *Student Attitudes, Teamwork

Shea, M. Christine. *Social development and behavior: An abstract bibliography.* May 1974, 78 pp. Available from Publications Office/IREC, College of Education, University of Illinois, 805 West Pennsylvania Avenue, Urbana, Illinois 61801 (Order Catalog No. 10, $1.95).

Abstracts, *Annotated Bibliographies, Attitudes, *Behavior Development, Child Development, *Children, *Educational Research, Interpersonal Competence, Peer Relationship, Program Descriptions, Social Attitudes, Social Behavior, *Social Development, Socialization, Sociometric Techniques

Shuter, Robert. The free school: A field study on sex roles and small group interaction. April 1974, 25 pp. ED 089 378.

Behavior Change, *Environmental Influences, Feminism, *Group Behavior, *Interpersonal Relationship, Open Education, Role Perception, *School Environment, *Sex Discrimination

Singer, Jerome L. and Singer, Dorothy G. Fostering imaginative play in pre-school children: Effects of television-viewing and direct adult modeling. April 1974, 46 pp. ED 089 873.

Affective Behavior, Aggression, Attention, Emotional Development, *Observational Learning, *Play, *Preschool Children, Sex Differences, *Social Development, *Television

Spaulding, Robert L. and Showers, Beverly. Applications of the Spaulding System of Classroom Behavioral Analysis in field settings. 1974, 27 pp. ED 091 399.

*Adjustment (to Environment), Behavior Change, *Class Management, Classroom Observation Techniques, Feedback, High School Students, *In-service Teacher Education, *Interaction Process Analysis, *Intervention, Junior High School Students, Student Behavior, Teacher Behavior, Teacher Education, Teaching Methods

Staub, Ervin. Children's sharing behavior: Success and failure, the "Norm of Deserving" and reciprocity in sharing. March 1973, 34 pp. ED 087 550.

Age Differences, *Altruism, *Elementary School Students, Feedback, *Interpersonal Relationship, *Rewards, Self Concept, *Social Behavior

Torop, Nancy R. The effects of adult evaluation on elementary school children's work and social interaction: An experimental study of affective tone and helpfulness. April 1974, 27 pp. ED 093 986.

Elementary School Students, *Feedback, Negative Reinforcement, Positive Reinforcement, Sex Differences, *Social Relations, *Student Behavior, *Student Evaluation

Wolfson, Bernice J. and Jackson. Philip W. Life's little problems: An intensive look at the daily experiences of young children. Informal paper. April 1970, 26 pp. ED 091 072.

*Behavioral Science Research, *Behavior Development, Behavior Patterns, Child Development, Observation, Parent Child Relationship, *Peer Relationship, *Preschool Children, Social Behavior, *Teacher Influence

Zimmerman, Barry J. Piaget's formulations on cognitive development: A critical examination in light of recent social learning research. August 1973, 13 pp. ED 087 552.

Children, *Cognitive Development, Cognitive Processes, *Concept Formation, Developmental Psychology, Developmental Tasks, *Early Childhood, Maturation, Minority Groups, Social Influences, *Socialization, *Thought Process

Journal Articles

Anderson, Scarvia and Messick, Samuel. Social competency in young children. *Developmental Psychology,* March 1974, 10(2), 282-293.

*Intelligence, *Interpersonal Competence, *Literature Reviews, *Social Development

Aronowitz, Stanley. Together and equal: The egalitarian promise of children's games. *Social Policy,* November-December 1973, 4(3), 78-84.

Athletics, *Children's Games, Clubs, Games, *Individual Development, *Play, Social Development, *Socialization, Social Values

Austrin, Harvey R. and Smith, Patricia M. Socialization as related to delinquency classification. *Psychological Reports,* April 1974, 34(2), 677-678.

Classification, *Delinquent Behavior, Delinquent Identification, *Rating Scales, *Socialization, Test Interpretation, Test Validity

Bauer, Natasa and Krivohlavy, Jaro. Co-operative conflict resolution in institutionalized boy dyads. *Journal of Child Psychology and Psychiatry,* January 1974, 15(1), 13-21.

*Cooperative Behavior, *Games, *Institutionalized (Persons), *Personality Assessment, *Social Behavior

Berliner, Michael S. Montessori and social development. *Educational Forum,* March 1974, 38(3), 295-303.

*Child Development, Class Activities, Concept Formation, Ethical Values, Evaluation Criteria, *Individualism, *Social Attitudes, *Social Development

bigner, Jerry J. Second borns' discrimination of sibling role concepts. *Developmental Psychology.* July 1974, 10(4), 564-573.

*Age Differences, *Role Perception, *Siblings, *Socialization

Blechman, Elaine A. The family contract game. *Family Coordinator,* July 1974, 23(3), 269-281.

*Behavior, *Family (Sociological Unit), *Interpersonal Relationship, *Problem Solving, Sex Role, *Sociometric Techniques

Boulding, Elise. Child and nonviolent social change. *New Frontiers in Education,* April/June 1974, 4(2), 17-35.

Activism, *Children, *Child Role, Dissent, Educational Theories, Learning Theories, *Primary Education, *Social Change, *Socialization, Violence

Chapman, Antony J. Social facilitation of laughter in children. *Journal of Experimental Social Psychology,* November 1973, 9(6), 528-541.

*Children, Correlation, *Humor, *Social Behavior, *Social Psychology, *Student Testing, Tables (Data), Tape Recording

Chasen, Barbara. Sex-role stereotyping and prekindergarten teachers. *Elementary School Journal,* January 1974, 74(4), 220-235.

*Classroom Environment, *Discriminatory Attitudes (Social), Nondiscriminatory Education, Sex Differences, *Sex Discrimination, Social Attitudes, *Socialization, *Teacher Attitudes, Teacher Evaluation

Corter, Carl M. A comparison of the mother's and a stranger's control over the behavior of infants. *Child Development,* December 1973, 44(4), 705-713.

*Attachment Behavior, Early Childhood, Fear, *Infants, *Parent Child Relationship, Social Development, *Socialization, Stranger Anxiety

Curtis, Russell L., Jr. Parents and peers: Serendipity in a study of shifting reference sources. *Social Forces,* March 1974, 52(3), 368-395.

*Adolescents, Age Differences, *Parent Influence, *Peer Groups, Secondary School Students, Sex Differences, Social Differences, *Socialization, Surveys, *Values

Denzin, Norman K. Childhood as a conversation of gestures. *Sociological Symposium,* February 1971, 7, 23-35.

Body Language, *Child Language, Communication (Thought Transfer), Concept Formation, *Early Childhood, Language Development, *Nonverbal Communication, *Parent Child Relationship, *Social Behavior, Sociolinguistics

Devereux, Edward C. *et al.* Socialization practices of parents, teacher, and peers in Israel: The kibbutz versus the city. *Child Development,* June 1974, 45(2), 269-281.

*Child Rearing, Discipline, Elementary School Students, *Parent Child Relationship, Peer Groups, *Personality Development, *Socialization, *Student Teacher Relationship

Eckerman, Carol O. and Rheingold, Harriet L. Infants' exploratory responses to toys and people. *Developmental Psychology,* March 1974, 10(2), 255-259.

*Exploratory Behavior, *Infant Behavior, *Infants, Mothers, *Social Behavior, *Toys

Feigenbaum, Kenneth D. An exploratory study of the young male's comprehension of social interaction. *Journal of Genetic Psychology,* December 1973, 123, 263-271.

*Cognitive Development, *Males (Egocentrism), *Social Development

Fein, Greta G. The effect of chronological age and model reward on imitative behavior. *Developmental Psychology,* November 1973, 9(3), 283-289.

*Age Differences, Cognitive Development, Discrimination Learning, *Elementary School Students, *Imitation, Personality Development, *Reinforcement, *Socialization

Feldhusen, John *et al.* Prediction of achievement with measures of learning, social behavior, sex and intelligence. *Psychology in the Schools,* January 1974, 11(1), 59-65.

*Academic Achievement, Educational Research, Elementary School Students, *Intelligence Quotient, *Social Behavior, *Success Factors

Gecas, Victor *et al.* The development of self-concept in the child: Mirror theory versus model theory. *Journal of Social Psychology,* February 1974, 92, 67-76.

*Child Development, Family Relationship, Imitation, Parent Child Relationship, Role Models, *Self Concept, *Socialization

Gingrich, D. D. Sex, grade level, and religious-educational environment as factors in peer conformity, *Journal of Genetic Psychology,* December 1973, 123, 321-328.

*Conformity, *Educational Environment, *Instructional Program Division, *Sex Differences, *Social Development

Grandy, Gordon S. *et al.* The effect of individual and interdependent contingencies on inappropriate classroom behavior. *Psychology in the Schools,* 1973, 10(4), 488-493.

Behavior Change, *Class Management, *Classroom Techniques, Discipline, Elementary School Students, *Reinforcement, *Social Behavior, *Student Behavior

Green, Francis P. and Schneider, Frank W. Age differences in the behavior of boys on three measures of altruism. *Child Development,* March 1974, 45(1), 248-251.

Adolescents, *Age Differences, *Altruism, Elementary School Students, Males, *Social Behavior, Volunteers

Gunter, B. G. Using volunteer families in teaching family sociology. *Family Coordinator,* July 1974, 23(3), 261-268.

*Child Responsibility, *Family (Sociological Unit), Fathers, Group Relations, *Parent Role, *Sociometric Techniques

Kanfer, Frederick H. and Zich, Jane. Self-control training: The effect of external control on children's resistance to temptation. *Developmental Psychology,* January 1974, 10(1), 108-115.

*Early Childhood, *Locus of Control, *Reinforcement, *Self Control, Sex Differences, *Socialization

Kleck, Robert E. *et al.* Physical appearance cues and interpersonal attraction in children. *Child Development,* June 1974, 45(2), 305-310.

Adolescents, Disadvantaged Youth, Elementary School Students, *Males, Peer Acceptance, Peer Relationship, *Physical Characteristics, Social Development, *Social Relations, *Sociometric Techniques

Kohn, Martin and Rosman, Bernice L. Cross-situational and longitudinal stability of social-emotional functioning in young children. *Child Development,* December 1973, 44(4), 721-727.

Behavior Change, *Elementary School Students, *Emotional Development, Factor Analysis, Longitudinal Studies, Personality, *Social Development

Kuo, Eddie Chen-Yu. The family and bilingual socialization: A sociolinguistic study of a sample of Chinese children in the United States. *Journal of Social Psychology,* April 1974, 92(2), 181-191.

Bilingualism, *Bilingual Students, Chinese, Cross Cultural Studies, English (Second Language), *Family Role, Language Development, *Parent Attitudes, *Sociolinguistics, *Socialization

Leifer, Aimee Door *et al.* Children's television: More than mere entertainment. *Harvard Educational Review,* May 1974, 44(2), 213-245.

*Child Development, Government Role, Parent Role, *Programming (Broadcast), *Social Attitudes, *Social Behavior, Social Influences, Television Research, Television Viewing

Leventhal, Gerald S. *et al.* Equity or equality in children's allocation of reward to other persons? *Child Development,* December 1973, 44(4), 752-763.

*Preschool Children, *Rewards, *Sex Differences, *Socialization

Liska, Allen. Comments on Jensen's "Parents, Peers, and Delinquent Action." *American Journal of Sociology,* January 1974, 79(4), 999-1002.

Debate, Delinquency Causes, *Delinquent Behavior, Delinquent Identification, Delinquent Role, *Delinquents, *Peer Relationship, Secondary School Students

Lytton, Hugh. Comparative yield of three data sources in the study of parent-child interaction. *Merrill-Palmer Quarterly,* Januarv 1974, 20(1), 53-64.

Classroom Observation Techniques, *Interaction Process Analysis, Interviews, Measurement Techniques, Naturalistic Research, *Observation, Parent Attitudes, *Parent Child Relationship, *Preschool Children

McClintock, Charles G. Development of social motives in Anglo-American and Mexican-American children. *Journal of Personality and Social Psychology,* March 1974, 29(3), 348-354.

Achievement, Anglo Americans, Comparative Analysis, *Competitive Behavior, *Cross Cultural Studies, Elementary School Students, Mexican Americans, *Motivation, *Social Behavior

Manning, Brad A. *et al.* Cooperative, trusting behavior in a "culturally deprived" mixed ethnic-group population. *Journal of Social Psychology,* February 1974, 92, 133-141.

*Behavioral Science Research, Competitive Behavior, Cooperative Behavior, Cultural Disadvantagement, Ethnic Relations, Interaction Process Analysis, Preschool Children, *Racial Differences, *Social Behavior

Masters, John C. and Christy, Monica D. Achievement standards for contingent self-reinforcement: Effects of task length and task difficulty. *Child Development,* March 1974, 45(1), 6-13.

Achievement, *Elementary School Students, Reinforcement, *Self Reward, *Socialization, Task Performance

Murray, John P. Social learning and cognitive development: Modeling effects on children's understanding of conversation. *British Journal of Psychology,* February 1974, 65(1), 151-160.

*Children, *Cognitive Development, Data Analysis, Methodology, *Models, Post Testing, Prediction, *Psychological Studies, *Socialization, Tables (Data)

Nelson, Richard C. and Nelson, Betty M. Girls as persons. *Elementary School Guidance and Counseling,* March 1974, 8(3), 202-208.

Child Development, *Females, *Role Perception, *School Role, *Socialization, Social Values

Nelson, Richard C. and Segrist, Allen E. Issues and dialogue: Boys as persons. *Elementary School Guidance and Counseling*, December 1973, 8(2), 122-125.

Individual Differences, *Males, *Nondiscriminatory Education, *Role Perception, Self Concept, Sex Differences, *Sex Discrimination, *Socialization, *Social Reinforcement

O'Hanley, Tom. Creative drama as a teaching tool. *Instructor*, December 1973, 83(4), 34-35.

Creative Ability, *Creative Dramatics, Creative Thinking, Drama, *Dramatics, Self Concept, *Social Relations

Oliver, Peter R. and Hopee, Ronald A. Factors effecting nonreinforced imitation: The model as a source of information or social control. *Journal of Experimental Child Psychology*, June 1974, 17(3), 383-398.

Age Differences, *Elementary School Students, Feedback, *Imitation, Kindergarten Children, Observational Learning, *Reinforcement, *Social Behavior, *Social Control

Reuter, Jeanette and Yunik, Gladys. Social interaction in nursery schools. *Developmental Psychology*, November 1973, 9(3), 319-325.

Age Differences, *Classroom Observation Techniques, *Comparative Analysis, *Montessori, Peer Relationship, *Preschool Education, Sex Differences, Social Development, *Social Environment, Social Influences, *Social Relations

Rhine, W. Ray. The relation of birth order, social class, and need achievement to independent judgement. *Journal of Social Psychology*, April 1974, 92(2), 201-208.

*Achievement Need, *Birth Order, Family Relationship, Individual Characteristics, *Individual Development, Self Concept, Siblings, *Social Behavior, *Social Differences, Social Maturity

Schulman, Jerome L. Evaluation of a classroom program to alter friendship practices. *Journal of Educational Research*, November 1973, 67(3), 99-102.

*Educational Research, Elementary Schools, Junior High Schools, *Peer Relationship, Program Design, *Program Evaluation, Tables (Data)

Serbin, Lisa A. *et al.* A comparison of teacher response to the preacademic and problem behavior of boys and girls. *Child Development,* December 1973, 44(4), 796-804.

Academic Failure, Aggression, Behavior Problems, Classroom Observation Techniques, *Preschool Children, *Sex Differences, *Socialization, Student Teacher Relationship, *Teacher Behavior

Sherman, Henry and Farina, Amerigo. Social adequacy of parents and children. *Journal of Abnormal Psychology,* June 1974, 83(3),327-330.

*Family Role, Interpersonal Competence, *Parent Child Relationship, *Psychopathology, *Research Methodology, *Social Attitudes, Social Environment, Tables (Data)

Smilansky, Moshe and Sanders, Donald P. The education of disadvantaged adolescents. *Educational Forum,* May 1974, 38(4), 411-430.

*Adolescents, *Educational Disadvantagement, Individual Needs, Industrialization, Psychological Characteristics, School Community Relationship, School Responsibility, *Self Actualization, Self Concept, *Social Development

Wheeler, Ronald and Ryan, Frank L. Effects of cooperative and competitive classroom environments on the attitudes and achievement of elementary school students engaged in social studies inquiry activities. *Journal of Educational Psychology,* December 1973, 65(3), 402-407.

*Academic Performance, *Attitudes, *Classroom Environment, Elementary School Students, Questioning Techniques, *Social Relations, *Social Studies

White, John E. To start an open classroom proceed with caution. *Elementary School Journal.* March 1974, 74(6), 321-325.

*Elementary Education, *Grouping (Instructional Purposes), *Open Education, *Social Relations, *Student Responsibility

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LONG-TERM RESEARCH

Note: The reports in this section concern research programs that are continuous.

34-AA-1 LONGITUDINAL STUDY OF CHILD GROWTH AND DEVELOPMENT

Investigator(s): Lester W. Sontag, M.D., Director Emeritus; and Frank Falkner, M.D., Director, Fels Research Institute for the Study of Human Development, 800 Livermore Street, Yellow Springs, Ohio 45387.
Purpose: To study adult personality, adjustment, and aging processes of subjects whose health, growth, personality development, and environment have been studied since birth.
Methods: The program included a study of the aging processes of the subjects' parents in relation to physical and biochemical measures made earlier. It will include studies of parental childrearing practices in the same families for two generations, constancy of autonomic response patterns to stress from childhood to young adulthood, and the relationship of response patterns to psychosomatic disorders in adulthood. Blood lipids in relation to body composition and change in composition will also be studied.
Cooperating group(s): Public Health Service, U. S. Department of Health, Education, and Welfare.

34-AA-2 DEVELOPMENT OF BUDGETS FOR CLOTHING AND HOUSEHOLD TEXTILES

Investigator(s): Virginia Britton, Ph.D., Home Economist, Consumer and Food Economics Institute, Agricultural Research Service, U. S. Department of Agriculture, Federal Center Building No. 1, Hyattsville, Maryland 20782.
Purpose: To develop and update current household clothing budgets taking into account known physiological and sociopsychological needs, clothing habits, income and other resources of various population groups, and the prices and availability of clothing items.
Subjects: 12,000 children in 6,000 families with husband and wife and one to five children, but with no other persons living in the home.
Methods: Data were gathered from the 1960-61 Survey of Consumer Expenditures by the Bureau of Labor Statistics and the U. S. Department of Agriculture. Budgets for children were computed using regression methods for three economic levels of the USDA food plans — economy, low cost, and moderate cost. Separate clothing budgets were computed for boys and girls categorized by age, region, and urbanization. Budgets will be published as total expenditures for children's clothing (updated to current price levels) and in garment equivalent units.
Findings: Budget costs for boys tended to equal comparable budgets for girls at the economy level. However, at higher budget levels, boys' costs were substantially less than girls' budgets. This was especially true for older children. Cost differences between clothing budget levels were substantially greater than between food plans, reflecting the greater elasticity of clothing expenditures. The majority of farm budgets and rural nonfarm budgets was about equal to the comparable urban budgets.
Duration: 1962-continuing.

Publications: Britton, Virginia. Clothing budgets for children from the USDA: Annual costs at three levels in four regions. *Home Economics Research Journal,* March 1973, 1(3), 173-184. (Reprints are available from Sales Office, American Home Economics Association, 2010 Massachusetts Avenue, N.W., Washington, D. C. 20036, $1.00.)

34-AA-3 CHILD HEALTH AND DEVELOPMENT STUDIES

Investigator(s): Jacob Yerushalmy, Ph.D., Professor of Biostatistics, School of Public Health, University of California at Berkeley, Berkeley, California 94720; Stephen Thomas, M.D., Director, Department of Obstetrics and Gynecology; and Edgar Schoen, M.D., Director, Department of Pediatrics, Kaiser Foundation Hospital, Oakland, California 94611.
Purpose: To investigate the relationship of parents' biologic, genetic, and environmental influences (including events during pregnancy, labor, and delivery) to the normal and abnormal development of offspring.
Subjects: Members of the Kaiser Foundation Health Plan (a prepaid medical care program) who reside in the San Francisco-East Bay area.
Methods: Expected byproducts of the investigation are the relationships of factors studied to (1) wasted pregnancies in the forms of early fetal death, perinatal mortality, infant and child mortality; and (2) estimates of the incidence of different types of abnormalities. The study is a prospective, longitudinal type involving both mother and child. Gravidas in the Department of Obstetrics and children in the Pediatric Department are observed, interviewed, and given laboratory examinations. Physicians' observations are systematized uniformly. Special efforts are made to obtain information on members of the study who do not return to the plan for medical care. Detailed growth curves for children, ages birth to 6, and estimates of illnesses and injuries in infancy and the preschool child will be derived on a longitudinal basis.
Duration: July 1959-indefinite.
Cooperating group(s): Permanente Medical Group; Kaiser Foundation Research Institute.
Publications: *Journal of Pediatrics,* August 1967, 71(2), 164-172; *Pediatrics,* 1967, 39, 940-941; *American Journal of Obstetrics and Gynecology,* February 15, 1964, 88(4), 505-518.

34-AA-4 THE BERKELEY, CALIFORNIA GROWTH STUDY

Investigator(s): Dorothy H. Eichorn, Ph.D., Research Psychologist, Institute of Human Development, University of California at Berkeley, Berkeley, California 94720.
Purpose: To study the mental and physical growth of normally healthy persons from birth to the present.
Subjects: 60 full-term, healthy newborns, born in Berkeley hospitals in 1928 to 1929 of white, English-speaking parents; and 140 offspring of these subjects, ages birth to 20, seen irregularly.
Methods: The same data, appropriate for age, were collected for the subjects and their offspring. Beginning in the first week of life, tests of mental and motor development, pediatric examinations, and interviews were conducted at frequent intervals during growth. At all visits, inquiries were made concerning current health and recent illnesses. Anthropometrics, body photographs, and skeletal X-rays were taken at most ages. Socioeconomic data were collected. Studies of the physical aspects of growth include analyses

that compare health histories with physical growth and with skeletal maturation. Emotional and other personality variables are being studied for consistency, and in various interrelations with maternal behavior in infancy, birth histories, socioeconomic status, and intellectual and physical growth.

Duration: 1928-continuing.

Publications: *American Psychologist*, 1968, 23(1), 1-17; *Monograph of the Society for Research in Child Development*, 1963, 28; Bayer, Leona and Bayley, Nancy. *Growth diagnosis: Selected methods for interpreting and predicting physical development from one year to maturity*. Chicago: University of Chicago Press, 1959.

34-AA-5 GROWTH OF PSYCHOPHYSIOLOGICAL PATTERNS IN INFANCY

Investigator(s): Wagner H. Bridger, M.D., Associate Professor of Psychiatry; and Beverly Birns, Ph.D., Assistant Professor of Psychology, Albert Einstein College of Medicine, Yeshiva University, Bronx, New York 10461.

Purpose: To investigate the origins and course of development of individual differences in neonates.

Subjects: Normal, healthy, full-term babies, 2 to 5 days old, born at Bronx Municipal Hospital Center.

Methods: A neonatal behavioral profile, which was established in previous studies, will be used. The profile includes behavioral and heart rate ratings on excitation, soothing, feeding, sleep, and nonstimulus periods of observation. Neonates will be followed at ages 2 weeks, and 1, 2, 3, and 4 months to measure the stability of early appearing traits and their relation to later behaviors. Data will be analyzed with respect to stability of early appearing behaviors and the relationship between neonatal behavior and maternal and birth history.

Duration: 1966-continuing.

Cooperating group(s): National Institute of Mental Health, Public Health Service, U.S. Department of Health, Education, and Welfare.

Publications: In Grant Newton and Seymour Levine (Eds.), *Early experience and behavior: Psychobiology of development*. Springfield, Illinois: Charles C. Thomas, 1968; *Psychosomatic Medicine*, 1966, 28, 316.

34-AA-6 LONGITUDINAL STUDY OF DENTOFACIAL SKELETAL, PHYSICAL GROWTH, AND NUTRITION OF CHILDREN

Investigator(s): Bhim S. Savara, D.M.D., M.S., Chairman, Child Study Clinic, Dental School, University of Oregon, Portland, Oregon 97201.

Purpose: To study the dentofacial growth of children, assessment and skeletal age related to facial growth, and variations in physique and its effect on dentofacial growth; and to determine heritable traits.

Subjects: 420 children, including 40 pairs of twins, ages 3 to 18. 300 children have been observed for more than 10 years.

Methods: Cephalograms, hand, wrist, and calf X-rays, intraoral X-rays, study casts, anthropometric measurements, and photographs are taken; and oral examinations are administered to the subjects. Children are examined every 6 months until they are 14 years old.

Duration: 1950-continuing.

Cooperating group(s): University of Oregon Dental School; National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare.

Publications: *Angle Orthodontist*, 1968, 38, 104-120; *American Journal of Orthodontics*, 1969, 55, 133-153; *American Journal of Physical Anthropology*, 1969, 30(2), 315-318; *Bulletin of the Academy of General Dentistry*, June 1969, 27-31; *Journal of Dentistry for Children*, November-December 1969, 1-4; *American Journal of Orthodontics*, 1970, 57(6), 561-572; *Journal of Dental Research*, 1970, 49(4), 885; *Advances in Oral Biology*. New York: Academic Press, Inc., 1970. Pp. 1-9; *Journal of the American Dental Association*, 1970, 81, 653-661; *Oral Health*, 1971, 61(10), 19-28; *American Journal of Orthodontics*, 1971, 59(5), 488-500; *Symposium on Close-Range Photogrammetry*. Urbana: University of Illinois, 1971. Pp. 365-369.

34-AA-7 NEW RADIOGRAPHIC STANDARDS OF REFERENCE FOR SKELETAL DEVELOPMENT OF CHILDREN AND STANDARDS IN PREPARATION

Investigator(s): S. Idell Pyle, Ph.D., Research Associate in Anatomy, School of Medicine, Case Western Reserve University, Cleveland, Ohio 44106; William W. Greulich, Ph.D., Research Biologist, National Institute of Child Health and Human Development, Bethesda, Maryland 20014; and staff of the National Center for Health Statistics involved in the National Health Survey, Public Health Service, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201.

Purpose: To develop radiographic standards of reference for skeletal development of children to provide a basis for identifying maturity levels of growing bones in the hands, elbows, shoulders, hips, knees, and feet of children and youths according to the shapes of the bone shadows in an X-ray film.

Subjects: Approximately 1,000 healthy individuals in Cleveland and Boston.

Methods: The bone shadows in an X-ray film display a modal rate of growth of each bone by illustrating regularly occurring osseous features which develop in series in the surface of the bone cortex as it calcifies. A reference standard consists of films arranged as a series to show sequential osseous features which are alike in males and females. It is an instrument for measuring the skeletal maturity level of children. Films of the subjects, covering the full span of growth from birth to adulthood, have been used to prepare standards. A standard of reference for joints in the upper extremity is in preparation, with the section on the hand and wrist showing the application of cardinal maturity indicators of individual bones to handwrist bones which are anomalous in the number of their bone growth centers. For published standards, see Publications below.

Cooperating group(s): Bolton-Brush Growth Study Center, Case Western Reserve University, Cleveland; Department of Maternal and Child Health, Harvard University School of Public Health, Boston; National Center for Health Statistics, Rockville, Maryland; Departments of Pediatrics and Endocrinology, Henry Ford Hospital, Detroit; Merrill-Palmer Institute, Detroit; Department of Education, Eastern Michigan University, Ypsilanti.

Publications: Greulich, W. W. and Pyle, S. I. *A radiographic atlas of skeletal development of the hand and wrist*. (2nd ed.) Stanford, California: Stanford University Press, 1959; Hoerr, N. L.; Pyle, S. I.; and Francis, C. C. *A radiographic atlas of skeletal development of the foot and ankle*. (1st ed.) Springfield, Illinois: Charles C. Thomas, 1962; Pyle, S. I. and Hoerr, N. L. *A standard of reference for the growing knee*. (2nd ed.) Springfield, Illinois: Charles C. Thomas, 1969; Pyle, S. I.; Waterhouse, A. M.; and Greulich,

W. W. *A standard of reference for the growing hand and wrist.* (1st ed.) Cleveland: The Press of Case Western Reserve University, 1971.

34-AA-8 METHODS IN CHARACTER DEVELOPMENT

Investigator(s): Ernest M. Ligon, Ph.D., Director; and staff, Union College Character Research Project, 10 Nott Terrace, Schenectady, New York 12308.
Purpose: To develop more effective methods in character development in cooperation with families and character training agencies. (Character is defined in terms of three dimensions: philosophy of values, breadth of social vision, and strength of purpose.)
Subjects: Children and families throughout the United States. The families belong to churches, YMCAs, and schools but participate in the study as individual families.
Methods: Procedures of the research are based on action research, in which the participants cooperate with the laboratory and use methods of coscientist research. Open-ended reports on research goals constitute the basic body of research data. An analysis of these data serves as the basis for the development of new procedures and for the scientific reports that are published concerning it.
Findings: Reports have been prepared concerning hypotheses tested in the home and character building agencies. Most of the findings relate to the home, learning, decision making, and methods for character development, plus descriptions of age level potentials, especially for decision making.
Duration: 1935-continuing.
Cooperating group(s): Lilly Endowment, Inc.
Publications: Catalog: *Attitude Education and Character Development*, which lists 44 publications and includes a price list, is available from the investigator.

34-AA-9 LONGITUDINAL GROWTH STUDIES OF CHILDREN WITH CRANIOFACIAL BIRTH DEFECTS

Investigator(s): Samuel Pruzansky, D.D.S., Director, Center for Craniofacial Anomalies, Medical Center, University of Illinois, P.O. Box 6998, Chicago, Illinois 60680.
Purpose: To study the epidemiology, genetics, morphology, physiology, and postnatal development; and to plot the natural history of children with craniofacial birth defects.
Subjects: Over 3,000 subjects, males and females, from infancy to adulthood.
Methods: The subjects were initially studied as infants. Procedures included roentgenocephalometry, tomography, dental casts, and photographs. Speech and hearing, psychosocial, and pediatric evaluations supplied additional information.
Findings: Patterns of growth have been delineated that are useful in clinical management. Some conditions have been shown to get worse; some show spontaneous improvement; and others remain unchanged. Syndrome-specific cranial morphologies have been described and genetic significance has been described.
Cooperating group(s): Illinois State Pediatric Institute; Division of Services for Crippled Children, University of Illinois; Cook County Children's Hospital; Division of Research, Maternal and Child Health Services, National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare; National Institute of Dental Research, National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare.

Publications: *Cleft Palate Journal,* 1971, 8, 239. A list of articles in journals of dentistry, medicine, public health, speech and hearing, and psychology is available from the investigator.

34-AA-10 YOUTH REPORTS

Investigator(s): Cecelia E. Sudia, M.A., Research and Evaluation Division, Children's Bureau, Office of Child Development, U.S. Department of Health, Education, and Welfare, P.O. Box 1182, Washington, D.C. 20013.
Purpose: To collect and analyze opinions and values of high school age youths.
Subjects: 250 high school students.
Methods: Students were randomly chosen from youth enrolled in college preparatory courses in high schools selected to cover urban and suburban schools in each of 12 metropolitan areas in the United States. Each student was sent a set of short, open-ended questions and asked to report on the range of opinions in his school or neighborhood group. It is anticipated that the panel will be interviewed in this way two to three times a year. Replies are coded for content; analysis is both quantitative and qualitative.
Findings: The method of mail interview is successful with this group of students, and qualitative reports of opinion add considerable depth and range, as compared to typical polls of student opinions.
Duration: Spring 1969-continuing.
Publications: Teenagers discuss the "generation gap." *Youth Reports No. 1,* U.S. Department of Health, Education, and Welfare, 1969; Youth reporters discuss "problem drugs." *Youth Reports No. 2,* U.S. Department of Health, Education, and Welfare, 1970; Youth reporters discuss legal age restrictions. *Youth Reports No. 3,* U.S. Department of Health, Education, and Welfare, 1971.

34-AA-11 NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Investigator(s): J. S. Ahmann, Ph.D., Director, Education Commission of the States, 700 Lincoln Tower, 1860 Lincoln Street, Denver, Colorado 80203.
Purpose: To make available the first comprehensive data on educational attainments of young Americans; and to measure any growth or decline which takes place in selected aspects of their attainments in certain subject areas.
Subjects: Approximately 80,000 to 100,000 subjects each year obtained by using random sampling procedures. Subjects represent four age groups: 9, 13, 17, and 26 to 35.
Methods: National Assessment of Educational Progress is an annual national survey of the knowledge, skills, understandings and attitudes of certain groups of young Americans. Students in school are assessed in small groups of up to 12, or in some cases, in individual interviews. Paper and pencil questions, discussions, and actual tasks to perform are included among the exercises. Adults are interviewed individually at home, and 17-year olds who are out of school also respond to exercises individually. Results are reported for about 50 percent of the exercises given each year, and are stated in percentages of people responding correctly or incorrectly. Results are reported nationally and for geographic region, size and type of community, sex, color, and parental education.
Duration: 1969-1980.

Cooperating group(s): National Center for Educational Statistics, U. S. Office of Education, U. S. Department of Health, Education, and Welfare; Carnegie Corporation, New York; Ford Foundation's Fund for the Advancement of Education.
Publications: National Assessment Publications List is available from Education Commission of the States, 300 Lincoln Tower, 1860 Lincoln Street, Denver, Colorado 80203.

34-AA-12 LONGITUDINAL GROWTH STUDY OF GUATEMALAN CHILDREN OF DIFFERENT RACIAL HISTORIES AND SOCIOECONOMIC BACKGROUNDS

Investigator(s): Francis E. Johnston, Ph.D., Professor, Department of Anthropology; Robert M. Malina, Ph.D., Associate Professor, University of Texas, Austin, Texas 78712; and Robert MacVean, Ed.D., Vice-Rector, Universidad del Valle de Guatemala; and Director, American School, Guatemala City, Guatemala.
Purpose: To study the interrelationships between growth measurements and performance measurements in a longitudinal sample of Guatemalan children of different genetic and socioeconomic backgrounds.
Subjects: Approximately 2,000 male and female students, ages 6 to 16, enrolled in two public and two private schools in Guatemala City are examined each year. Children are of Guatemalan, European, and North American backgrounds.
Methods: Subjects are examined each spring. Data gathered include anthropometric measurements, hand-wrist X-rays, results of intelligence and performance tests, and medical examination records. Cross-sectional and longitudinal analyses of data will be performed.
Duration: 1953-1975.
Cooperating group(s): American School, Guatemala City; Universidad del Valle de Guatemala; University of Texas, Austin.

34-AA-13 PROGNOSTIC VALUE OF NEONATAL BEHAVIORAL ASSESSMENTS

Investigator(s): Judy F. Rosenblith, Ph.D., Professor of Psychology, Wheaton College, Norton, Massachusetts 02766; and Associate Member, Institute of Life Sciences, Brown University, Box 1910, Providence, Rhode Island 02912.
Purpose: To determine if standardized behavioral assessment of newborns can be used to identify a population at risk to later neurologically based developmental dysfunction.
Subjects: Approximately 1,750 newborns, 1,550 of whom participate in the Providence Collaborative Perinatal Research Project.
Methods: The Rosenblith modification of the Graham Scale, a behavioral assessment, was used to determine the neurological, muscular, and sensory status of the newborns. Prognostic value of this scale is determined by relating it to criteria obtained in the follow-up assessments of the Collaborative Perinatal Research Project. Replications of the original study based on 400 infants total almost four. Data are now complete through the fourth year psychological examination.
Findings: Newborn measures are related to development at 8 months of age. Specific newborn signs are prognostic of later dysfunction: hypersensitivity to light is indicative of severe neurological damage; unusual patterns of muscle tonicity are related to varying degrees of developmental problems. The newborn assessments could be routinely

adapted by hospitals: the equipment costs less than $10; the time required for assessment is less than a 1/2 hour; and the examination procedure can be taught to paraprofessional personnel.

Duration: January 1958-September 1975.

Cooperating group(s): Providence Lying-In Hospital; Child Development Study and Institute of Life Sciences, Brown University.

Publications: *Biologia Neonatorium*, 1970, 15, 217-228; *American Academy of Ophthalmology and Otolaryngology. Transactions*, 1970, 74, 1215-1228; Dubois-Poolsen, Lairy, and Remond (Eds.) La fonction du regard. *Colloque*, 1971, 215-224 (published by Institut National de la Sante et de la Recherche Medicale, Paris).

34-AA-14 COLLABORATIVE STUDIES IN CEREBRAL PALSY AND OTHER NEUROLOGICAL AND SENSORY DISORDERS OF INFANCY AND CHILDHOOD

Investigator(s): Joseph S. Drage, M.D., National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare, Bethesda, Maryland 20014.

Purpose: The Collaborative Perinatal Project (CPP) is a longitudinal multidisciplinary research effort which seeks leads to the etiologies of cerebral palsy, mental retardation, learning disorders, congenital malformations, minimal brain dysfunction, convulsive disorders, and communicative disorders, through studies which relate the events, conditions, and abnormalities of pregnancy, labor, and delivery to the neurological and mental development of the children of these pregnancies.

Subjects: During a period from 1959 through 1966, detailed research data were obtained from 50,000 women during pregnancy, labor, and delivery. The children born to these 50,000 women during their participation in the CPP have been examined at specific intervals up to the child's eighth birthday to identify abnormal conditions which might limit the child's ability to reach maximum developmental potential.

Methods: A comprehensive analysis of the data will investigate the complex interactions between the child's condition and the antecedent factors which may have contributed to the condition. The analysis of this data is underway within the National Institutes of Health, within other government agencies, and under contract with teams of investigators at medical centers outside of government. The Perinatal Research Branch and the National Institute of Neurological and Communicative Disorders and Stroke have the responsibility for monitoring, coordinating, and administering the overall research effort. The goal of this effort is a series of publications available to the research community and the general public. The projected completion of this analysis is June 30, 1976. The data for the CPP were collected at 12 major medical centers in the United States.

Duration: 1956-continuing.

Cooperating group(s): Charity Hospital, New Orleans, Louisiana; Johns Hopkins University School of Medicine, Baltimore, Maryland; Boston Lying-In Hospital, Children's Medical Center, and Harvard University (Warren Anatomical Museum), Boston, Massachusetts; University of Minnesota Medical School, Minneapolis, Minnesota; Columbia-Presbyterian Medical Center, New York, New York; Children's Hospital of Buffalo, Buffalo, New York; University of Oregon Medical School, Portland, Oregon; Children's Hospital of Philadelphia and Pennsylvania Hospital, Philadelphia, Pennsylvania; Brown University, Providence, Rhode Island; University of Tennessee Medical School, Memphis, Tennessee; Medical College of Virginia, Richmond, Virginia.

Publications: (1) Niswander, K. R. *et al. The women and their pregnancies,* 1972. (The Collaborative Perinatal Study of the National Institute of Neurological and Communicative Disorders and Stroke). Availble from: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. Order Stock No. 1749-00038; price, $10.00. (2) A bibliography is available from the investigator.

34-AA-15 STUDY OF PERSONALITY ORIENTED DEVELOPMENT BY THE TWIN INTRAPAIR COMPARISON METHOD

Investigator(s): William Pollin, M.D., Chief; Donald Cohen, M.D., Clinical Associate; and Eleanor Dibble, Research Social Worker, Section on Twin and Sibling Studies, Adult Psychiatry Branch, National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U.S. Department of Health, Education, and Welfare, Bethesda, Maryland 20014.
Purpose: To understand the contributions of genetic, constitutional, and environmental factors to social, emotional, and cognitive development during the first years of life; specifically, to explicate the factors that underlie the emergence of individuality, using twins and triplets as subjects.
Subjects: Twins and triplets, from the prenatal period through elementary school age.
Methods: The central methodological principle emphasizes the effort to define precisely developmental difference within infant and childhood MZ twin pairs, and then search for the determinants of such differences. In the longitudinal study, parents are interviewed as soon as the diagnosis of a twin pregnancy is made. Neurological, pediatric, and developmental assessments are performed at birth and at 3- to 6-month intervals during the first years of life. The parents are interviewed at the same intervals about the children's development and family history. In the preschool period, the children receive standardized psychological testing, are observed in a standardized nursery school setting, and are administered projective psychological testing. Children and families are visited at home and also seen in structured office settings. In cross-sectional studies, children are seen for developmental evaluation, psychological assessment, and observations of free play, and their parents are interviewed. The value of questionnaire techniques is being investigated. A general research question relates to the way in which constitutional differences in the children elicit different types of parenting, and the ways in which differential parental behavior shapes the emergence of personality differences in the children.
Duration: 1967-1980.

34-AA-16 PREVENTIVELY ORIENTED SCHOOL MENTAL HEALTH PROGRAMS

Investigator(s): Emory L. Cowen, Ph.D., Professor, Department of Psychology, and Director; D. A. Dorr, Ph.D., Research Coordinator; L. D. Izzo, M.A., Chief Psychologist; and M.A. Trost, M.A., Chief Social Worker, Primary Mental Health Project, University of Rochester, River Campus Station, Rochester, New York 14627.
Purpose: To detect and prevent school maladaptation.

Subjects: 7,500 school children including 4,500 primary children in 11 preventively oriented school mental health programs.
Methods: Current research which originated in 1958 (see *Research Relating to Children,* Study 19-SS-7), includes 23 studies on training nonprofessionals, evaluation of programs, process analyses, selection-process relations, selection-outcome relations, and process-outcome relations. Between 20 and 30 different research instruments and assessment procedures are being used.
Duration: February 1969-continuing.
Cooperating group(s): University of Rochester.

34-AA-17 LANGUAGE ACQUISITION IN THE CONTEXT OF THE DEVELOPMENT OF BEHAVIOR AND INTERACTION

Investigator(s): Margaret Bullowa, M.D., Researcher, Speech Communication Group, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.
Purpose: To find the steps by which early stages of the child's language development take place.
Subjects: Four firstborn children from white, English-speaking, middle class families.
Methods: Each child was observed from birth for at least 30 months at home at weekly intervals. On each visit a half hour continuous record was made on tape and film. An observer using a shielded microphone dictated a simultaneous description of ongoing behavior and interaction to supplement the film taken by a robot camera. A timing signal was placed on the tape and film every 5 seconds. (The tape and film from an observation may be synchronized during playback in the laboratory.) In addition, an independent team that consisted of a pediatrician and a developmental psychologist visited each baby's home once a month to assess other aspects of maturation and development. Indexes to sound and transcripts were made from the tapes to permit rapid search. Tapes are analyzed by linguists interested in phonological, semantic and syntactic features. Synchronized tape and film is studied by linguists and by the principal investigator, who is interested in the communicative behavior of which the vocalization forms a part.
Findings: The most significant finding is the apparent obligatory relationship between the child's vocal sound production and actions with the same meaning in early *performative sentences.* Such sentences are used by the child to communicate messages when he is showing something to someone, when he is greeting someone, etc. Another finding is the spontaneous appearance of sentences with topic-comment construction in the child's speech even though parents rarely use this construction. (The construction is not characteristic of adult American English.)
Duration: Pilot study, 1959-1965; present study, 1965-continuing.
Cooperating group(s): National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare.
Publications: *Journal of Child Psychiatry,* 1964, III(1), 53; *Monographs of the Society for Research in Child Development,* 1964, 29(1), 101-114; *Language and Speech,* 1964, 7(2), 107-111; *Quarterly Progress Report of the Research Laboratory of Electronics,* 1966, 81, 181-186; *Lingua,* 1967, 19(1), 1-59; *Foundations of Language,* 1967, 1, 37-65; Reibel, D. A. and Schane, S. A. (Eds.) *Modern studies in English.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969. Pp. 422-447; Bar-Adon, A. and Leopold,

W. F. (Eds.) *Child language: A book of readings.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971; *Journal of the American Academy of Child Psychiatry,* 1971, 10(1), 124-135; *Quarterly Progress Report of the Research Laboratory of Electronics,* M.I.T., 1971, No. 100.

34-AA-18 THE HARVARD PRESCHOOL PROJECT

Investigator(s): Burton L. White, Ph.D., Director; Jean Watts, Ph.D., Co-director; and Barbara Kaban, M.A., The Harvard Preschool Project, Laboratory of Human Development, Graduate School of Education, Harvard University, 418 Larsen Hall, Appian Way, Cambridge, Massachusetts 02138.

Purpose: To trace the development of educability and competence in children during the first 6 years of life, and simultaneously to trace the role of experience in such development.

Subjects: Presently, 32 normal children, ages 12 to 32 months, of both sexes, half of whom were selected because they exhibited potentials to develop high degrees of general competence during the second and third years of life; while the other children seemed likely to develop a considerably lower level of competence.

Methods: The work in progress constitutes a longitudinal natural experiment. Data are collected by home observation and testing of the children on the average of 2 hours per week. One observational technique consists of tape recordings in which the observer describes the child's activities. The data are then coded onto forms using instruments developed for the project. Another technique involves a checklist record of behavior. Tests of language and cognitive development are administered regularly. Factors, including stream of experience, the child's competencies, and salient environmental influences, are measured.

Findings: Analysis of preliminary data indicates that the observation instruments are monitoring the development of competence in promising ways. Further indications of how childrearing practices influence the process are becoming clear. The mother or substitute, usually through indirect action, is seen as the major environmental influence on the development of competence. A longitudinal experiment will be initiated this year. (See *Research Relating to Children, Bulletin 22,* May-December 1967, Study 22-DA-3, p. 16.)

Duration: September 1965-continuing.

Cooperating group(s): U. S. Office of Economic Opportunity; Carnegie Corporation, New York; Head Start, Office of Child Development, U. S. Department of Health, Education, and Welfare.

34-AA-19 LEARNING OF INCENTIVE VALUE IN CHILDREN

Investigator(s): Jum C. Nunnally, Ph.D., Professor, Department of Psychology, Vanderbilt University, Nashville, Tennessee 37203.

Purpose: To study the learning of incentive value in children through the use of reward conditioning.

Subjects: Elementary school children, ages 7 to 11.

Methods: Neutral objects (usually nonsense syllables) are associated with receipt of reward, nonreward, and loss of reward in various types of research designs. The

amounts and kinds of condition reward value are measured in relation to verbal evaluation, reward expectancy, choice behavior, and measures of selective attention.

Findings: Various consistent effects have been found on the dependent measures, and the research paradigms have been able to differentiate many treatment conditions concerned with secondary rewards.

Duration: 1963-continuing.

Cooperating group(s): Office of Education, U. S. Department of Health, Education, and Welfare.

Publications: Rileigh, K. K. and Nunnally, J. C. A new measure of semantic appraisal for studies of secondary rewards. *Psychonomic Science*, 1970, 18, 203-205; Wilson, W. H. and Nunnally, J. C. A naturalistic investigation of acquired meaning in children. *Psychonomic Science*, 1971, 23, 149-150.

34-AA-20 COLLABORATIVE PERINATAL RESEARCH PROJECT

Investigator(s): John A. Anderson, M.D., Ph.D., Professor and Head, Department of Pediatrics; and Robert O. Fisch, M.D., Project Director, Child Development Study, University of Minnesota, Box 487 Mayo Memorial, Minneapolis, Minnesota 55455.

Purpose: To develop public health measures for the prevention of pregnancy wastage and damaged children.

Subjects: Approximately 3,000 pregnant women and their newborns who will be followed from birth to age 8.

Methods: The following data will be collected from early pregnancy onward for the mother and child: history, physical examination, laboratory findings, labor and delivery, newborn observations, nursing, pediatric-neurological examinations, 4-month pediatric evaluation, 3-year speech and hearing examination, 4-year psychological examination, 7-year pediatric-neurological and psychological examination, and 8-year speech, language, and hearing examination.

Duration: January 1958-July 1974.

Cooperating group(s): National Institute of Neurological Diseases and Stroke, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare; Boston Lying-In Hospital; Brown University, Providence; Charity Hospital, New Orleans; University of Buffalo; Children's Hospital, Phildalephia; Children's Medical Center, Boston; Columbia University, New York; Johns Hopkins University, Baltimore; Medical College, University of Virginia, Charlottesville; New York Medical College, New York; Pennsylvania Hospital, Philadelphia; University of Oregon Medical School, Portland; University of Tennessee College of Medicine, Memphis.

Publications: Results will be available from Dr. Joseph S. Drage, Acting Chief, Perinatal Research Branch, National Institutes of Health, Bethesda, Maryland 20014.

34-AA-21 CHILDHOOD PSYCHOSIS

Investigator(s): Rudolf Ekstein, Ph.D., Director, Childhood Psychosis Project; Seymour W. Friedman, M.D., Director, Clinical Services; Peter Landres, M.D., Staff Psychiatrist; Beatrice M. Cooper, M.A., Senior Research Social Worker; and Joel Liebowitz, Ph.D., Clinical Research Psychologist, Reiss-Davis Child Study Center, 9760 West Pico Boulevard, Los Angeles, California 90035.

Purpose: To develop better diagnostic and treatment methods for childhood psychosis; and to investigate psychoanalytic methods of treatment, the use of support systems, and work with parents, collaborating agencies, schools, and hospitals.
Subjects: 10 children, ages 5 to 20.
Methods: Data were gathered through tape recordings of psychotherapy sessions, therapists' summaries of sessions, and repeated psychological tests. The use of *distance* as a psychological mechanism will be investigated. (See *Research Relating to Children, Bulletin 18,* 1964, 58; and *Bulletin 20,* 1966, 72.)
Duration: 1957-continuing.
Publications: *Children of time and space, of action and impulse.* New York: Appleton-Century-Crofts, 1966; *The challenge: Despair and hope in the conquest of inner space.* New York: Brunner/Mazel, 1971; Ekstein, R. and Friedman, S. W. Do you have faith that I'll make it? *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Rubin, K. The flawed hammer. *Reiss-Davis Clinic Bulletin,* 1971 8(2); Cooper, B. The flawed triangle. *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Liebowitz, J. M. Transformation of the flaw — Reevaluation via psychological testing. *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Ekstein, R. and Wax, D. Fusion and diffusion of memory and perception in childhood psychosis in relation to psychotherapeutic innovations. *Reiss-Davis Clinic Bulletin,* 1972, 9(2); Ekstein, R. Friedman, S.; and Caruth, E. The psychoanalytic treatment of childhood schizophrenia. In B. B. Wolman (Ed.) *Manual of child psychopathology.* New York: McGraw Hill, 1972. Pp. 1035-1057.

34-AA-22 A SURVEY OF THE NUTRITIONAL STATUS OF BRITISH SCHOOL CHILDREN

Investigator(s): Judith Cook, M.B., B. Chem., Lecturer; Douglas Altman, B.Sc., Lecturer; W. W. Holland, M.D., F.F.C.M., Professor; S. G. Topp, B.Sc., Dip. Stat., Lecturer, Department of Clinical Epidemiology and Social Medicine, School of Medicine, St. Thomas' Hospital, London, S.E.1, England; and A. Elliott, M.D., D.P.H., County Medical Officer, Kent County Council, Kent, England.
Purpose: To examine the dietary intake of school children and investigate its relationship to health and socioeconomic factors; and to explore the extent and nature of poor nutrition.
Subjects: 1,017 children, born between 1953 and 1955 or between 1958 and 1960, residing in and attending Local Authority schools in four areas in Kent, England. The sample was stratified by social class, family size, and weight. Higher sampling fractions were taken for children from four groups: children (1) from larger families, (2) from lower social classes, (3) with no fathers, and (4) with low weights; in order to have adequate numbers of subjects in those groups suspected of having the greatest likelihood of deficiency.
Methods: Field work for each child, conducted between September 1968 and March 1970, was comprised of a weighted diet record, a socioeconomic questionnaire, and a medical examination. The weighted diet record was kept for 1 week and was closely supervised by a trained field worker. The same field worker administered the socioeconomic questionnaire which elicited information on family structure, father's occupation, mother's education and working status, the child's health history and eating pattern, and the parents' heights. The medical examination, carried out by one of two medical officers, included a clinical assessment of the nutritional status of the child; measurements of height, weight, triceps and subscapular skinfold thickness, arm circumference, and peak expiratory flow rate. The medical examination also noted clinical evidence of vitamin deficiency.
Duration: 1968-continuing.

Cooperating group(s): Department of Health and Social Security; St. Thomas' Hospital School of Medicine, London, England; Kent County Council, Kent, England.
Publications: Topp, S. G.; Cook, J.; and Elliott, A. Measurement of nutritional intake among school children. *British Journal of Preventive Social Medicine,* 1972, 26, 106; Cook, J.; Altman, D. G.; Moore, D. M. C.; Topp, S. G.; Holland, W. W.; and Elliott, A. A survey of the nutritional status of school children. Relation between nutrient intake and socioeconomic factors. *British Journal of Preventive Social Medicine,* 1973, 27, 91-99.

34-AA-23 RESEARCH AND GUIDANCE LABORATORY SUPERIOR STUDENT PROJECT

Investigator(s): Marshall P. Sanborn, Ph.D., Director; and Charles Pulvino, Ph.D., Associate Director, Research and Guidance Laboratory, University of Wisconsin, 1025 West Johnson, Madison, Wisconsin 53706.
Purpose: To develop and demonstrate procedures for the identification and description of multipotential and promising youth; to study the guidance and educational development of human potential; and to serve as a demonstration and development center for counseling, guidance, and planning activities for all cooperating high schools.
Subjects: This is a longitudinal sample now numbering 3,700 males and females, ages 14 to 30, from 90 Wisconsin school systems, whose average mental test scores are in the upper three to five percent of students in their age range and grade in school. Subjects are selected using criteria designed to identify multipotential youth in grade 9. These criteria include aspects of the student's vocabulary, spoken and written communication, reading background, range of interests, school performance, creativity, and learning behavior.
Methods: Subjects visit the laboratory facilities for 1 day at least once during their period of high school attendance. Arranged activities include testing and evaluation, analysis of written and oral performances, visits to classes and laboratories, and conferences with university staff members in any area of interest. These activities are designed to (1) broaden students' horizons with respect to educational and vocational opportunities, (2) develop realistic self-concepts about their own strengths and interests, (3) foster plans for suitable educational programs, (4) discover methods for overcoming limitations, (5) encourage development of personal and academic strengths, and (6) provide counsel on matters that may influence the individual student's fullest development. Findings are interpreted and implications are considered with the student in individual counseling sessions. Laboratory staff teams (1) visit students' schools and hold conferences with the parents of each participating child to inform parents about characteristics of their children which they may not know; (2) stimulate action of parents to meet their child's developmental needs; (3) facilitate communication between the parents, school, and student; and (4) discover points of view and other parental characteristics which affect the student's development. A written report regarding each individual student is sent to his or her school containing information about the student's performance, interests, and needs, as well as suggestions the school could implement to provide desired educational or personal experiences. Inservice training sessions are held to discuss specific students, suggestions to the school, and general principles for guidance and education of superior students. Objectives of these training sessions are (1) stimulation of and assistance with the processes of identification of superior students; (2) encouragement and assistance in making special provisions for the development of superior students, and stimulation to do so for other students; (3) provision of information about educational and vocational requirements and opportunities particularly applicable to superior students; (4) encouragement of innovation and experimentation in school procedures for superior students as well as for other students; and (5) demonstration of ap-

propriate guidance services for high school students. Although there are difficulties in obtaining adequate control groups, some research studies have been done comparing laboratory participants with other students matched on academic, familial, school, and community variables. In addition, comparisons of the effectiveness of two or more procedures for accomplishing a particular guidance goal have been made in other laboratory research studies.
Findings: The Research and Guidance Laboratory is a cooperative effort which has maintained direct, personal, longitudinal, and functional relationships between the University of Wisconsin and 3,700 top students, their parents, and their teachers throughout Wisconsin. (See *Research Relating to Children, Bulletin 22,* May-December 1967, Study 22-QA-1, p. 83.) More than 97 percent of all student participants who have graduated from high school have enrolled in higher education programs. Many have gone on to graduate and professional study. As a group, these young people have established a very outstanding record in college.
Duration: 1957-continuing.
Cooperating group(s): Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; 90 cooperating school systems in Wisconsin.
Publications: (1) Sanborn, P. and Niemiec, C. J. Identifying values of superior high school students. *School Counselor,* March 1971. (2) Bradley, R. W. and Sanborn, M. P. Ordinal position of high school students identified by their teachers as superior. *Journal of Educational Psychology,* 1969, 60(1), 41-45. (3) Mowsesian, R.; Heath, R. G.; and Rothney, J. W. M. Superior students' occupational preferences and their fathers' occupations. *Personnel and Guidance Journal,* November 1966. Refer to *Education Index* for other publications related to this project.

34-AA-24 NATIONAL CHILD DEVELOPMENT STUDY

Investigator(s): V. R. Fogelman, Senior Research Officer, National Children's Bureau, 8 Wakeley Street, Islington, London E.C.1, England.
Purpose: To conduct a multidisciplinary, longitudinal study of a representative sample of British children to chart their physical, educational, and social development from birth to maturity.
Subjects: Approximately 16,000 children comprising all the children in England, Scotland, and Wales born during the week of March 3-9, 1958.
Methods: Medical and social background information was collected at birth by questionnaires through hospitals and midwives. Follow-ups are conducted at ages 7, 11, and 16 consisting of a medical examination, a questionnaire completed by the subject's school, tests of attainment, and a home interview with the parents. At ages 11 and 16 only, questionnaires are completed by the subjects. In addition, special studies of subsamples are being performed. These usually involve further questionnaires and/or interviews. Some of the substudies focus on children in one-parent families, and adopted, illegitimate, mentally handicapped, physically handicapped, socially disadvantaged, and gifted children.
Duration: 1958-1977.
Cooperating group(s): Association of Directors of Education, Scotland; Department of Education and Science; Department of Health and Social Security; Institute of Child Health, University of London; National Birthday Trust Fund; National Foundation for Educational Research; Society of Education Officers; Society of Community Medicine.
Publications: A complete list of publications is available from the National Children's Bureau.

GROWTH AND DEVELOPMENT

General

34-BA-1 DEVELOPMENTAL CHART: 0 TO 16 YEARS

Investigator(s): Roy Evans, Ph.D., Assistant Director of Research, National Children's Bureau, Adam House, 1 Fitzroy Square, London S1, England.
Purpose: To produce a booklet to be used by a child's caretaker; e.g., parent, nursery assistant, baby sitter, teacher, or play group leader, consisting of developmental guidelines based upon observation which can be used to make a cumulative record of an individual child's development.
Subjects: 200 children, ages 0 to 5, who live in London.
Methods: Existing developmental schedules will be screened and items selected for ease of observation. Prior to piloting the items, they will be tested with small groups of children in day nurseries. Following the tryout, items will be revised, new items will be written, and all sections will be put together covering five areas of functioning: physical, adaptive, communicative, self-help, and behavior. Item analyses will be performed so that each item has a 90 percent pass age. Work will follow on preparing a developmental guidelines booklet appropriate for children ages 5 to 9.
Duration: 1973-1978.
Cooperating group(s): Barnadoes Day Nurseries and Playgroups; Local Authority Day Nurseries; Inner London Education Authority Nursery School.

Physical

34-CA-1 A LONGITUDINAL EVALUATION OF THE PROGNOSTIC QUALITY OF THE ATTENTION TEST, BOEL: A SCREENING PROGRAM FOR EARLY DETECTION OF COMMUNICATIVE DISORDERS

Investigator(s): Karin Stensland Junker, Ph.D., Associate Professor, Pediatric-Audiological Methodology; and Brita Biejnoff-Sahkin, M.D., Assistant, Barnkliniken, Karolinska sjukhuset and Lekoteket på Blockhusudden (Swedish Scouts and Girl Guides National Association's Foundation for Mentally Retarded and Handicapped Children), S-104 01, Stockholm 60, Sweden.
Purpose: To evaluate the BOEL screening test method, an early detection instrument, intended to be used by social welfare services during Swedish children's health checkups as a routine control of attention function and general development; and to follow up a sample of BOEL tested infants.

Subjects: Experimental group: 20 children, ages 2½ to 3½, all BOEL-tested by the same examiner, who had found them nonresponding to one or more of 10 points in the test report when they were 8 months old. Control group: 20 BOEL-tested children matched with the experimental group for sex and age.
Methods: The BOEL screening test method (an easily administered method of testing 7- to 10-month-old infants) aims at an early detection and follow-up by early educational stimulation supplied by the "lekotek" service. The follow-up includes assessing the general medical status, mental development, and sociability of the subjects. The children are given an audiology examination. The Denver Developmental Screening Test and a clinical scale for speech development status (generally used by phoniatric clinicians) are combined with a neurological examination to get an appreciation of BOEL's prognostic quality. A child neurologist, a speech pathologist, an audiologist, and a pediatric specialist are participating in the follow-up.
Findings: Only five of the 20 children had been examined when the study was reported to *Research Relating to Children.* One child was deaf and was taken care of by the service for children with severe hearing loss in Stockholm; one child was mentally retarded and had a training program at the "lekotek"; one child was mildly retarded; another was emotionally unstable; and another appeared normal.
Duration: May 1974-December 1974.
Publications: A paper presented at the XIV International Congress of Pediatricians, Buenos Aires, Argentina, October 1974: Stensland Junker, K. and Biejnoff-Sahkin, B. Communicative disorder screening: BOEL—A program for early detection to be followed up by early educational stimulation.

34-CA-2 EEG CORRELATES OF POSTTRAUMATIC SEIZURES IN CHILDREN

Investigator(s): Perry Black, M.D., Associate Professor, Department of Neurological Surgery, School of Medicine, Johns Hopkins University, Baltimore, Maryland 21205.
Purpose: To study the early and late effects of head injury in children.
Subjects: 307 head injured children, ages 0 to 14; and a control group of 220 noninjured siblings.
Methods: Injured subjects were examined in the acute phase, at 3 months, and annually thereafter up to 6 years. Each examination included four types of evaluation: neurological, EEG, psychiatric, and psychometric (IQ testing). The data were coded and transferred to computer tape for analysis with emphasis on cross-correlation of characteristics among the four disciplines under study.
Findings: With respect to EEG correlates of posttraumatic seizures, the initial EEG showed definite abnormality in 82 percent of the children who had early seizures, compared with 43 percent of the children without any seizures and 21 percent of the sibling controls ($p = .001$). There was no significant difference in the occurrence of "14 and 6" (regarded as a normal variant) among the siblings (3 percent), seizure patients (0 percent), and nonseizure patients (5 percent). In patients with early seizures, the occurrence of EEG abnormalities declined markedly after the inital period, but some abnormalities reappeared at 3 and 4 years after injury.
Duration: 1966-continuing.
Cooperating group(s): National Institute of Neurological Diseases and Stroke, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: (1) Black, P.; Shepard, R. H.; and Walker, A. E. A prospective study of posttraumatic seizures in children. *Transactions of the American Neurological Association,* 1972,

97, 247-250. (2) Black, P.; Blumer, D.; Wellner, A.; and Walker, A. E. The head-injured child: Time-course of recovery, with implications for rehabilitation. In *Head injuries: Proceedings of an international symposium.* Edinburgh: Churchill Livingstone, 1971, 131-137. (3) Black, P.; Jeffries, J. J.; Blumer, D.; Wellner, A.; and Walker, A. E. The posttraumatic syndrome in children: Characteristics and incidence. In A. E. Walker *et al.* (Eds.), *The late effects of head injury.* Springfield, Illinois: Charles C. Thomas, 1969. Pp. 142-149.

34-CA-3 BIOLOGIC RHYTHMS OF BLOOD CALCIUM, GLUCOSE, AND CORTISOL IN NEWBORNS UNDER CYCLED AND UNCYCLED LIGHTING

Investigator(s): Thomas R. C. Sisson, M.D., Professor; and Norman Kendall, M.D., Professor, Department of Neonatology, School of Medicine, Temple University, 3401 North Broad Street, Philadelphia, Pennsylvania 19140.
Purpose: To determine the biologic rhythms of blood calcium, glucose, and cortisol in newborns under cycled and uncycled lighting.
Subjects: 46 newborn infants.
Methods: Patients are randomly assigned to one of three regimens. The first group receives constant nursery light of 100 footcandles (at the infant's level) from overhead daylight flourescents. The second regimen is cycled light (12 hours l: 12 hours d) of the same light source as the first regimen. A third group of patients is treated by blue flourescent lamps F20T12/BB, constant exposure for physiologic hyperbilirubinemia. This light source has energy output of 3.0 uw/cm^2 and fluance of 48 footcandles. Serial blood samples of these groups will be taken to study the biologic rhythms of the newborns. Analysis of data will be by the cosinor technique of Franz Halberg (standard for studies of biologic periodicity).
Duration: July 1974-July 1975.

34-CA-4 RACIAL DIFFERENCES IN CARDIOVASCULAR FUNCTION AT BIRTH

Investigator(s): Joseph Schachter, M.D., Associate Professor, Pittsburgh Child Guidance Center, Department of Psychiatry, School of Medicine, University of Pittsburgh, 201 DeSoto Street, Pittsburgh, Pennsylvania 15213.
Purpose: To determine whether Black newborns differ from White newborns in heart rate and blood pressure; and to explore whether these factors constitute precursors of later hypertensive disease.
Subjects: 200 newborns from a low socioeconomic class population in the northeastern United States selected from a prenatal clinic population.
Methods: Neonates' heart rates and blood pressure are measured in different stages of sleep on the second and third days after birth. Racial differences are examined in relation to a variety of perinatal variables.
Findings: Heart rate regulation in Black newborns differs from that in White newborns in tonic level and pattern of phasic responses to auditory stimuli. In a small number of subjects, among females, Black neonates have higher systolic blood pressures.
Duration: 1973-1976.

34-CA-5 SEX DIFFERENCES FROM BIRTH TO 6 YEARS: HORMONAL AND BEHAVIORAL

Investigator(s): Eleanor E. Maccoby, Ph.D., Professor, Department of Psychology, Laboratory of Human Development, Owen House; and Carol Nagy Jacklin, Ph.D., Senior Postdoctoral Fellow, Stanford University, Stanford, California 94305.
Purpose: To ascertain the extent of various behavioral and physical sex differences and their correlations with hormonal levels at birth.
Subjects: Approximately 112 boys and 112 girls: healthy neonates.
Methods: The subjects are studied from birth to 6. Measures for newborns are prone head response, hand grip strength, and tactile sensitivity (administered while asleep). At 3 months, home visits are made to study the interaction between parents and infant and to obtain measures of timidity responses. At 6 months, assessment focuses on visual, auditory, social, and nonsocial responses; grip strength; and timidity responses.
Duration: 1972-1980.
Cooperating group(s): Ford Foundation; Spencer Foundation.

34-CE-1 DIETARY INTAKE OF PRESCHOOL CHILDREN IN RURAL PUNJAB

Investigator(s): A. Kielmann, M.D., Research Associate; and N. Kielmann, M.S., Research Assistant, Department of International Health, School of Hygiene and Public Health, Johns Hopkins University, 615 North Wolfe Street, Baltimore, Maryland 21206; G. Subbulakshmi, Ph.D., Principal, College of Home Science, Anand, Gujurat, India; and B. D. Maingi, Lecturer, Department of Home Science, Punjab Agricultural University, Ludhiana, Punjab, India.
Purpose: To determine the daily food intake of weaned 1- to 3-year-old children in order to explain the observed (1) general stunting of Punjabi children in comparison to the Harvard growth standards, (2) high prevalence of iron deficiency anemia, and (3) marked differences in growth pattern in different castes and sexes; and to determine the extent to which socioeconomic status, parental education, family size, and birth order may affect child feeding practices.
Subjects: 150 children, ages 1 to 3: 75 children were randomly selected from each of the two main caste groups in the villages of rural Punjab.
Methods: A dietary survey by observation (weightment method) was made on 100 subjects for 1 day. Fifty subjects were observed for 3 days.
Findings: Preliminary results seem to indicate that both the quality and quantity of food intake is markedly reduced in children of low socioeconomic background, female sex, and high birth order if older alive siblings include at least one boy.
Duration: January 1972-December 1974.

34-CE-2 PROJECT ANTAR

Investigator(s): Fredrick J. Stare, M D., Chairman, Department of Nutrition, School of Public Health, Harvard University, Cambridge, Massachusetts 02138; and Z. Kallal, M.D., Director, National Institute of Nutrition and Food Technology, Kebili (Gabes), Tunisia.
Purpose: To determine the effect of the fortification of wheat products with lysine and/or vitamins and iron on the health and development of preschool children in Tunisia.
Subjects: 3,300 children, ages 3 months to 6½ years, from southern Tunisia.

Methods: The region has been divided into three approximately similar areas with the children of one region receiving wheat fortified with lysine and vitamins, children in another region receiving vitamin and iron fortified wheat, and a third control region. Every 6 months subjects are submitted to anthropometrics, X-rays of hands and wrists, and clinical and laboratory determinations. Data are punched and immediately coupled with those of the previous examination for the control of longitudinal validity. Original anthropometric and skeletal data are transformed into stanine units for a more complete evaluation of the results and the creation of composite scores of growth. Demographic and economic conditions of the children's families are also followed.

Duration: 1969-1975.

Cooperating group(s): Agency for International Development.

Publications: Boutourline, E.; Tesi, G.; Kerr, G. R.; Ghamry M.; Stare, F.J.; Kallal, Z.; Turki, M.; and Hemaidan, N. Nutritional correlates of child development in Southern Tunisia. III. Skeletal growth and maturation. *Growth,* 1973. 37. 223. (2) Boutourline, E.; Tesi, G.; Kerr, G. R.; Ghamry, M.; Stare, F.J.; Kallal, Z.; Turki, M.; and Hemaidan, N. Nutritional correlates of child development in Southern Tunisia. II. Mass measurements. *Growth,* 1973. 37. 91. (3) Boutourline, E.; Tesi, G.; Kerr, G. R.; Stare, F. J.; Kallal, Z.; Turki, M.; and Hemaidan, N. Nutritional correlates of child development in Southern Tunisia. I. Linear growth. *Growth,* 1972. 36. 407.

34-CE-3 PATTERNS OF FOOD INTAKE AND NUTRITIONAL HEALTH OF GIRLS

Investigator(s): Alice C. Stubbs, Ph.D., Professor, Consumer Research Center; and Roscoe Lewis, Ph.D., Professor, Department of Biochemistry and Biophysics, College of Agriculture, Texas A & M University, College Station, Texas 77843.

Purpose: To identify the potential for modification of food choices and food programs to improve nutritional health; to expand and refine methods of measuring nutritional status in relation to variations among individuals; and to correlate individuals' food choices with their nutritional status in selected populations of 9- and 10-year-old girls.

Subjects: 164 girls, age 9: 54 Afro-American (24 high income, 30 low income); 51 Spanish-American (27 high income, 24 low income); and 59 Euro-American (28 high income, 31 low income).

Methods: Data are collected annually over a 3-year period. Data include anthropometric, demographic, dietary, biochemical, clinical, and physical performance and development information. Statistical evaluation of the data will be made to determine the influences of economic level and ethnic background on subjects' food choices, intake patterns, and nutritional status.

Findings: Preliminary analysis indicates that the triglyceride values for the Spanish-Americans and Euro-Americans were significantly greater than those observed for the Afro-Americans. From the urine analysis, two values (creatinine and grams of total nitrogen per gram of creatinine) were significantly lower for the Afro-Americans than for Spanish-Americans or Euro-Americans.

Duration: January 1972-June 1977.

Cooperating group(s): Baylor School of Medicine, Houston, Texas.

Publications: Stubbs, A. C. and Lewis, R. The nutritional status of the pre-teenager. *Proceedings of the Twenty-Eighth Annual Texas Nutrition Conference,* October 1973, 144-147.

34-CE-4 A FOLLOW-UP OF INTRAUTERINE GROWTH RETARDATION

Investigator(s): Dugal Campbell, Ph.D., Professor, Department of Psychiatry, Queen's University, Kingston, Ontario, Canada.
Purpose: To document the progress of infants known to have been exposed to undernutrition *in utero* and to compare their progress with that of normal controls.
Subjects: Experimental group: approximately 50 infants diagnosed at birth as *small for dates.* Control group: 50 infants of normal size. Genuine premature infants are excluded from the sample.
Methods: Conventional developmental and psychometric tests will be administered at intervals from birth until the subject enters school. Socioeconomic assessments will be made of the families, and tests of language development will be administered.
Duration: January 1974-December 1981.
Cooperating group(s): Department of Obstetrics, Queen's University, Kingston; Ontario Mental Health Foundation, Toronto.

34-CF-1 SEQUENCES IN CRANIOFACIAL MALFORMATION

Investigator(s): Harry Israel, D.D.S., Chief, Dental Research Section, Fels Research Institute for the Study of Human Development, 800 Livermore Street, Yellow Springs, Ohio 45387.
Purpose: To investigate the morphological consequences of defective development in the craniofacial skeleton; and to understand generalized growth restriction along with focal development.
Subjects: 350 boys and girls with birth defects, ages 0 to 18.
Methods: This study focuses on cranial shape and form and localized and general developmental defects in the neuro- and viscerocranium from the standpoint of linear and maturational development relative to both chronological and maturational age. A radiogrammatic approach is used, and both parametric and nonparametric procedures will be utilized, including univariate and multivariate analyses.
Duration: 1973-1975.
Cooperating group(s): Hamilton County Diagnostic Clinic for the Mentally Retarded, Cincinnati, Ohio; University Affiliated Clinical Program for the Mentally Retarded, Children's Hospital, Cincinnati, Ohio.

34-CG-1 NUTRITION, SOCIAL ENVIRONMENT, AND PSYCHOMOTOR DEVELOPMENT AMONG PRESCHOOL CHILDREN IN RURAL INDIA

Investigator(s): W. Blot, Ph.D., Assistant Professor; and A. Kielmann, M.D., Research Associate, Department of International Health, School of Hygiene and Public Health, Johns Hopkins University, 615 North Wolfe Street, Baltimore, Maryland 21206; and S. Prabhakar, M.S., Research Assistant, Rural Health Research Center, Narangwal, Ludhiana, India.
Purpose: To determine the effect of nutritional status and social environment on the psychomotor development of rural preschool children in a community largely homogeneous with respect to education, occupation, beliefs, customs, and childrearing practices.
Subjects: 530 children in rural India, ages birth to 4, whose entire past anthropometry and morbidity experience is known and documented.

Methods: A test adapted to local North Indian child life was administered cross-sectionally to the subjects. Multiple regression analysis will be used with achieved scores as the dependent variable and age, sex, parental education, number of older siblings, past and present nutritional status, and past morbidity experience as independent variables.
Findings: Preliminary analysis seems to indicate that undernutrition prior to 18 months of age may significantly affect psychomotor skills, social environment being corrected for.
Duration: August 1972-July 1974.

34-CH-1 IMPAIRED SPEECH-MOTOR ENCODING SPEED IN POOR READERS

Investigator(s): Carl Spring, Ph.D., Assistant Professor, Department of Education, University of California at Davis, Davis, California 95616.
Purpose: To investigate the role of speech-motor encoding in accounting for reading disability in certain children; and to test the hypothesis that unusually slow speech-motor encoding results in impaired short-term and long-term serial recall, as well as impaired perceptual span.
Subjects: Experimental group: 24 boys, ages 8 to 12, with normal to high IQs, in remedial reading and spelling classes. Control group: 24 boys performing at grade level.
Methods: Reading disabled boys and normal boys, matched for age and father's occupation, are compared on measures of speech-motor encoding speed, serial recall, and perceptual span. Multiple regression statistical techniques are used.
Findings: A model is described attributing impaired serial recall of dyslexic children to rehearsal deficit resulting from unusually slow speech-motor encoding. In a test of the model with elementary age boys, (1) dyslexics (N = 24) were slower than normal readers (N = 24) on a variety of naming tasks; (2) probed digit memory of dyslexics was impaired for all but recently presented digits, implying normal short-term storage and impaired long-term storage; (3) evidence of failure to rehearse was obtained for dyslexics; and (4) failure to rehearse was related to slow speech-motor encoding.
Duration: Fall 1972-spring 1975.
Publications: Spring, C. and Capps, C. Encoding speed, rehearsal, and probed recall of dyslexic boys. *Journal of Educational Psychology* (in press).

Intellectual

34-DA-1 THE EFFECTS OF TEMPERATURE AND LIGHTING ON CHILDREN

Investigator(s): B. Löfstedt, M.D.; and D. P. Wyon, Ph.D., Principal Scientific Officers, National Swedish Building Research Institute, Environmental Laboratory, Department of Architecture, University of Lund, Box 725, Lund, Sweden 220 07.
Purpose: To examine the main effects and possible interaction of moderate heat stress and different lighting intensities on the mental performance of children.
Subjects: 72 boys and 72 girls, age 11.
Methods: The main factors of the experiment are temperature (control level and moderate heat stress), lighting intensity (60, 250, and 1,000 lux), time of day (A.M. or P.M.), intelligence, and

personality. A color-word test is used to assess personality. Each child is exposed singly in a climate chamber for one 4-hour time period. Physiological measures include rectal and skin temperatures and ECG. Behavioral measures consist of visual tasks and a variety of nonvisual performance tasks, including memory, learning, vigilance, mathematical, and verbal tasks.
Findings: Preliminary analysis indicates marked interaction of factors on nonvisual tasks. The hot, very bright condition deviated very markedly from more normal combinations in a negative way.
Duration: 1972-1975

34-DA-2 NATURE OF CHILDREN'S EXPECTATIONS

Investigator(s): Margaret M. Clifford, Ph.D., Associate Professor, Department of Educational Psychology, University of Iowa, 360 Lindquist Center, Iowa City, Iowa 52242.
Purpose: To assess the accuracy of children's expectations in view of previous feedback on related tasks; and to examine the developmental functions of the inaccuracy of expectations.
Subjects: First, third, and fifth grade boys and girls within the average range on intelligence and achievement test scores.
Methods: Manipulated feedback was provided to the subjects on two different types of tasks. On one type of task high feedback was given, while on the other type low feedback was given. A final trial resembling one of the two types of tasks was then presented, and the subject was requested to state his expected score. A 3 X 2 (grade by sex) analysis of variance was performed on the expected score.
Findings: The discrepancy between an expectation and prior feedback is a decreasing monotonic function of development. Inaccurate expectations of children reflect more overestimation than underestimation. Overestimation is a decreasing monotonic function of development.
Duration: May 1973-completed.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-DB-1 RELATIONS BETWEEN COGNITIVE DEVELOPMENT AND STRATEGIES FOR THINKING IN PRESCHOOL CHILDREN

Investigator(s): Thomas M. Achenbach, Ph.D., Associate Professor, Department of Psychology, Child Study Center, Yale University, 333 Cedar Street, New Haven, Connecticut 06510.
Purpose: To determine whether preschool children's reliance on associative-impulsive cognitive style interferes with cognitive development.
Subjects: 120 lower and middle class boys and girls, ages 2 to 5.
Methods: The children are tested twice at 6-month intervals on (1) measures of impulsive-associative responding, (2) measures of awareness of qualitative and quantitative invariance, (3) measures of the ability to use concepts of invariance in transitivity and seriation, and (4) the Stanford-Binet Intelligence Scale. The relations between socioeconomic status and impulsive-associative responding, on the one hand, and rate of cognitive development, on the other, will be analyzed statistically.

Duration: Summer 1973-summer 1974.

Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Achenbach, T. Surprise and memory as indices of concrete operational development. *Psychological Reports,* 1973, 33, 47-57. (2) Achenbach, T. The Children's Associative Responding Test: A two-year follow-up. *Developmental Psychology,* 1971, 5, 477-483. (3) Achenbach, T. Conservation of illusion-distorted identity: Its relation to MA and CA in normals and retardates. *Child Development,* 1969, 40, 663-679.

34-DB-2 RELATIONS BETWEEN COGNITIVE DEVELOPMENT AND STRATEGIES FOR THINKING IN PRIMARY AND SECONDARY SCHOOL CHILDREN

Investigator(s): Thomas M. Achenbach, Ph.D., Associate Professor, Department of Psychology, Child Study Center, Yale University, 333 Cedar Street, New Haven, Connecticut 06510.

Purpose: To determine whether primary and secondary school children's reliance on associative-impulsive cognitive style interferes with cognitive development.

Subjects: 500 boys and girls from all social classes, studied from grades 2 through 12, but currently in grades 11 and 12.

Methods: The children were tested on The Children's Associative Responding Test when they were in the fifth or sixth grade and again 2 years later. Relations between categorization on that test as associative or nonassociative responders and changes in IQ, achievement test performance, grades, dropping out of school, etc. from grades 2 through 12 will be analyzed statistically.

Duration: Winter 1974-continuing.

Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Achenbach, T. Surprise and memory as indices of concrete operational development. *Psychological Reports,* 1973, 33, 47-57. (2) Achenbach, T. The Children's Associative Responding Test: A two-year follow-up. *Developmental Psychology,* 1971, 5, 477-483. (3) Achenbach, T. Conservation of illusion-distorted identity: Its relation to MA and CA in normals and retardates. *Child Development,* 1969, 40, 663-679.

34-DB-3 DEVELOPMENT OF THE PENNSYLVANIA PRESCHOOL INVENTORY

Investigator(s): Russell A. Dusewicz, Ph.D., Senior Research Associate, Division of Research, Pennsylvania State Department of Education, Box 911, Harrisburg, Pennsylvania 17126; and Mary Ann O'Connell, M.S., Associate Director, PRIDE Project, West Chester State College, West Chester, Pennsylvania 19380.

Purpose: To design a brief, straight forward, efficient measure to assess the cognitive development of children from ages 3 to 6 that has predictive abilities allowing its use as a cognitive readiness index for kindergarten and first grade.

Subjects: Over 200 children were employed in the development of test items. Eighty-five children, ages 3 to 5, from low and middle income families, comprised the sample to estimate the test's realiability, and 20 of the 85 children were used to attain an estimate of test validity.
Methods: An extensive review was conducted of available preschool measures that appeared to have some similarity in objectives to the proposed test. These tests were screened for item types that might be adapted for use in the development of a new test, the Pennsylvania Preschool Inventory (PPI). Through this process, four item types (vocabulary, memory, relationships, and logical abilities) were identified for use. Within these item types, 14 skill areas (e.g., noun recognition, analogy, shapes and colors, and sequencing) were defined for the purposes of item construction. An item pool of nearly 300 items was then developed, reviewed, and finally pilot tested. Accommodations were made where indicated to widen the difficulty range and increase the discrimination ability of the items before a final draft was tested for reliability and validity. To estimate validity, scores from other standardized measures of cognitive development were obtained for 20 children and correlated with their PPI scores. The other measures of cognitive development were the Slosson Intelligence Test (SIT), the Stanford-Binet Intelligence Scale (SBIS), and the Peabody Picture Vocabulary Test (PPVT). Successive item analyses were utilized to reduce the number of items to the final 61 included in the present form of the PPI.
Findings: Reliability, as computed by the Kuder-Richardson Formula 20, was .93. An estimate of validity, as established by correlating scores of other standardized measures of cognitive development with the same children's PPI scores resulted in the following correlations: PPI X SIT, .78; PPI X SBIS, .85; PPI X PPVT, .68. The investigators concluded that these correlations suggest that the relationship between the PPI and the three criterion measures is fairly strong and supportive of claims of construct validity.
Duration: October 1972-June 1974.
Publications: *The Pennsylvania Preschool Inventory Testing Manual.* West Chester, Pennsylvania: West Chester State College.

34-DB-4 COGNITIVE CONTROL IN DEPRIVED BLACKS AND WHITES

Investigator(s): Riley W. Gardner, Ph.D., Senior Psychologist, Menninger Foundation, Box 829, Topeka, Kansas 66601.
Purpose: To determine similarities and differences in level and patterning of cognitive controls in deprived Blacks, Whites, and Mexican children.
Subjects: 64 Black, 64 White, and 64 Mexican American socially deprived children, ages 9 to 12; and one group of comparable middle class Whites.
Methods: Hollinghead's Two-Factor Index of Social Position was used as the criterion of social deprivation. Deprived Black, White, and Mexican subjects scored in Social Classes 4 and 5 on this index, while middle class White subjects scored in Social Classes 2 and 3 and Computed Score 44 of Social Class 4 on the index. The Wechsler Intelligence Scale for Children was administered to all subjects to control for IQs. A battery of cognitive control and cognitive style tests was administered consisting of the Color-Word Test, Photo Sorting Test (alternate forms in which pictures of Black or White children are categorized), Size Estimation Test I (size judgments of disks), Size Estimation Test II (size judgments of parts of illusion-producing figures), Concealed Figures Test, Object Sorting Test, and Schematizing Test. In addition, Kagan's Matching Familiar Figures Test was administered. Multivariate analysis of variance was used for each procedure or test with groups as an independent factor. A correlated factor of test form was added for the Photo Sorting Test. Also, correlations among major scores were

computed, and a subset was factor analyzed using Principal Components with Normal Varimax rotation for each group. Factor solutions were compared using Kaiser's factor-matching method.
Duration: 1971-1976.
Cooperating group(s): Public Health Service, U. S. Department of Health, Education, and Welfare.

34-DC-1 IMITATION AS A POSITIVE REINFORCER FOR PRESCHOOLERS

Investigator(s): Peter A. Lamal, Ph.D., Assistant Professor; and James D. Wroten, Ph.D., Instructor, Department of Psychology, University of North Carolina at Charlotte, Charlotte, North Carolina 28213; and Steve Carter, B.A., Behavioral Systems, Inc., 3300 Northeast Expressway, Atlanta, Georgia 30341.
Purpose: To determine whether imitation of a given response will serve to positively reinforce that response in preschool children.
Subjects: 22 boys and girls, mean age 4.7, of normal intelligence, from Black and White middle class backgrounds.
Methods: An ABAB design with two treatment phases was used. Each treatment consisted of a marble drop task during which each subject's response to a randomly predetermined hole was imitated by an adult. Subjects' critical responses were analyzed by means of an analysis of variance model for the intrasubject replication design.
Findings: The between treatments main effect indicated a significantly greater number of critical responses under the imitation treatment than under the no-imitation treatment.
Duration: November 1973-completed.
Cooperating group(s): Central Piedmont Community College Day Care Center.

34-DC-2 CHILDREN WITH LEARNING DISABILITIES: A FOLLOW-UP

Investigator(s): Roscoe A. Dykman, Ph.D., Professor, Behavioral Laboratory; John E. Peters, M.D., Director, Greater Little Rock Community Mental Health Center; and Peggy T. Ackerman, M.A., Research Associate, Medical Center, University of Arkansas, 4301 West Markham, Little Rock, Arkansas 72201.
Purpose: To contrast two groups of 14-year-old boys, one group diagnosed as learning disabled and the other considered normal achievers.
Subjects: Initial sample: 82 learning disabled subjects and 34 controls, all Caucasian, from essentially middle class homes. Boys were ages 8 to 11 when first seen. Sixty-two cases and 31 controls have been restudied.
Methods: Learning disabled boys were classified as hyperactive, hypoactive, and normoactive. Measures obtained from all control and learning disabled children initially and at follow-up consisted of Wechsler Intelligence Scale for Children (WISC) IQ and scale scores, Gray Oral Reading level, developmental neurological status, Bender Gestalt developmental level, reaction times, and physiological reactivity to orienting stimuli. (See original report in *Research Relating to Children, Bulletin 27,* Study 27-DC-2, p. 23.) Also at follow-up, the subjects were given the Wide Range Achievement Test (WRAT), the Minnesota Counseling Inventory (MCI), and an informal test of handwriting speed. An alternate form of the Gray Oral Reading Test (GORT) was used to assess silent reading speed and comprehension. Delayed recall of the orally

and silently read Gray material was tested. Teacher and parent rating forms and interviews supplied background information. Standardized group test scores, principally from the Iowa battery, were also obtained.

Findings: Though initially the groups did not differ in Full Scale IQ, at follow-up, controls exceeded learning disabled subjects on the Arithmetic, Information, Digit Span, Vocabulary, and Coding subtests of the WISC. This pattern indicates deficiencies in sequencing or symbol manipulation that result in a lower level of acquired knowledge. Learning disabled subjects as a group remain below age and grade level expectancy on all basic skills. Their scores on the WRAT were reading = 7.2, spelling = 5.6, and arithmetic = 6.1, as compared with controls' scores: reading = 10.7, spelling = 8.5, and arithmetic = 8.3. The mean GORT level at follow-up was 5.8 for learning disabled subjects and 10.0 for controls, as compared to an expectancy of 8.5 for learning disabled boys and 9.1 for normal achieving boys (Myklebust formula). In addition, the learning disabled boys remained at a disadvantage to control boys on the developmental neurological examination and on reaction time (involving a yes-no decision). The learning disabled boys also wrote more slowly as a group. On the MCI, hyperactive and hypoactive learning disabled boys had appreciably higher mean scores (more problems) than normoactive boys on all scales, with hyperactives generally higher than hypoactives.

Duration: 1967-1975.

Cooperating group(s): Child Study Center, University of Arkansas Medical Center; Little Rock Public Schools; National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: A preliminary report on 53 subjects is available in *Annals of the New York Academy of Sciences,* 1973, 205, 93-108.

34-DC-3 MNEMONIC TRANSFORMATIONS AND VERBAL CODING PROCESSES IN CHILDREN

Investigator(s): Raymond W. Kulhavy, Ph.D., Associate Professor; John Canady, M.A., Faculty Associate; and C. Rayfield Haynes, M.A., Faculty Associate, Department of Educational Psychology, Arizona State University, Tempe, Arizona 85281.

Purpose: To test Kulhavy's and Heinen's model of verbal coding processes which suggests that it is possible for children to use only two control transformations with which to code verbal material for memory storage; and to study the changes in children's use of processes as a function of age.

Subjects: 120 Caucasian children from a predominantly middle class district: 20 boys and 20 girls selected from grades 2, 4, and 6. Mean age was 7.4 in grade 2; 9.5 in grade 4; and 11.5 in grade 6.

Methods: Mnemonic control instruction (I) and grade level (G) were combined to form 12 experimental groups. Trials were used as a within-subjects variable. The final design was a 4I (image X cluster X learn X narrative) by 3G (2nd, 4th, and 6th grades) by 2T (trials) mixed analysis of variance with repeated measures on the trials variable. On an individual basis, subjects were asked to learn a list of 12 nouns: four nouns in each of three conceptual categories. Analysis of variance, clustering measures (ARC), and rank order analysis were performed on the recall data.

Findings: Unit transformations (such as imagery) are superior to order transformations (such as category clustering) in terms of recall performance. Increases are significant for mnemonic control instruction, grade, and several contributing interactions. No systematic effects were found for reorganization of data output.

Duration: Spring 1974-August 1974.

34-DC-4 DEVELOPMENT OF MNEMONIC STRATEGIES

Investigator(s): Edith D. Neimark, Ph.D., Professor, Douglass College, Rutgers University, New Brunswick, New Jersey 08903.

Purpose: To provide normative evidence on the kinds of spontaneous mnemonics employed by children in grades 4 to 12 to learn words and pictures for free recall, serial lists, and paired associates.

Subjects: Eight girls and eight boys at each of three ability levels for each of grades 4, 6, 8, 10, and 12; and 140 college girls, all assumed to be at a high ability level.

Methods: Each subject is tested individually on two tasks for each of two sessions. The order of tasks is varied in a Latin Square design. For each task, the subject is given the material (words or pictures) and told that (s)he has 3 minutes to learn it in any way (s)he wishes. Subjects are allowed 5 minutes for free recall of words. During the study time, the experimenter observes and takes notes on the subject's study behavior. At the end of the interval, the material is removed, and the subject is tested for recall. Additional study-test cycles are given until the material has been learned or three cycles have been completed. In analyzing the data, performance is treated in relation to ability level at all ages.

Findings: Data for college students show that about 90 percent of the protocols involve some mnemonic scheme. Functionally, the scheme organizes material into a number of chunks arranged in alphabetical order, by conceptual class, or by rhythmic grouping (whatever is available in the material). For children, the variable accounting for the most variation is ability level; performance is correlated with strategy.

Duration: September 1972-August 1977.

Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-DD-1 SOCIAL PSYCHOLOGICAL EFFECTS OF IQ TESTING

Investigator(s): William Samuel, Ph.D., Associate Professor, Department of Psychology, California State University at Sacramento, Sacramento, California 95819.

Purpose: To investigate the effects of test atmosphere, tester expectation, and race of tester on the IQ of Black and White students.

Subjects: 416 Caucasian and Black junior high school students under age 16. The subjects were equally divided by sex and race.

Methods: In this study, a factorial design was employed and variables were paired: test atmosphere (evaluative or gamelike), tester expectation (low or high), race of tester and race and sex of subject. Subjects were individually administered the Wechsler Intelligence Scale for Children performance measures, the Nowlis Mood Adjective Checklist, a children's version of the Rotter I-E Scale (Nowicki and Strickland), the Social Desirability Scale, and anxiety scales (Janis and Field). Parents' occupations and home addresses provided a numerical index of social class.

Findings: While there was an overall tendency for Blacks to score below Whites in IQ, the experimental manipulations did serve to diminish, as well as sometimes to widen, interracial differences in mean IQ. Mood and personality variables were reliably correlated with IQ. High socioeconomic status Blacks scored above low socioeconomic status Whites in IQ.

Duration: June 1972-January 1975.

Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Foundation of California State University, Sacramento, California.

34-DE-1 THE EFFECTS OF THREE TYPES OF PRESCHOOL ACTIVITIES ON THE DEVELOPMENT OF REPRESENTATIONAL THOUGHT

Investigator(s): Margaret E. Smart, Ed.D., Associate Professor, School for Early Childhood Education; and William Theimer, Ph.D., Associate Professor, School of Education, University of Southern California at Los Angeles, Waite Phillips Hall, University Park, Los Angeles, California 90007.
Purpose: To study the effects of three types of preschool activities on the quantity and complexity of children's language and representations as expressed through clay and paint.
Subjects: 90 children from low and middle income families enrolled in Fall 1974 in a preschool at the University of Southern California: 41 Blacks, 40 Mexican Americans, 9 other races; 50 boys and 40 girls, ages 3 to 5. The Mexican American children were from homes in which Spanish was spoken exclusively, although some children entered preschool speaking Spanish and English.
Methods: This study is based on the idea that the identification and comparison of activities that elicit words referring to temporal and spatial concepts may lead to representational competence, and thus provide an empirical base for curriculum development. Children are assigned to six classes using stratified random sampling to control for sex, ethnicity, intelligence, and age. Three treatment groups are formed of two classes each. Treatment activities include cooking, water play, and intelligence kits. Each group presents a discrete treatment activity for 15 to 30 minutes for 12 school days. The total treatment is 36 days, and treatment activities are rotated so that all three groups participate in each activity. Children may not choose to participate. Observations are made and language samples are recorded for each child over a 4-day period (a total of three 3-minute samples for each child during each treatment). Language samples are recorded as the child speaks in either English or Spanish. A sample of each child's two and three dimensional products are taken at the beginning and end of the project. Descriptive analysis of these data are intended to serve as the basis for an extensive research project in Spring 1975.
Duration: September 1974-February 1975.
Cooperating group(s): California State Department of Education, Child Development Unit.
Publications: Further information is available from Dr. Smart.

34-DG-1 CHILDREN'S PERCEPTUAL MOTOR REVERSAL CONFUSIONS: CORRELATES AND THERAPY

Investigator(s): Margaret H. Huyck, Ph.D., Assistant Professor, Department of Psychology, Illinois Institute of Technology, Chicago, Illinois 60616; and Steven B. Greenspan, O.D., Ph.D., Assistant Professor, Department of Psychology, Illinois College of Optometry, Technology Center, 3241 South Michigan Avenue, Chicago, Illinois 60616.
Purpose: To study the reversal confusions in the reading and writing of children, specifically (1) the validity and interrelationships of various diagnostic criteria in the clinical assessment of reversal confusion tendencies; (2) the comparative value of several theories of the etiology of reversal confusions, studied on the basis of several corresponding therapeutic approaches in perceptual motor training, including oculomotor activity, visual memory, attention to directionality, and body image development; (3) the effectiveness of therapy in perceptual motor training in alleviating reversal confusion tendencies; and (4) the importance of various characteristics of children and various aspects of the therapy, in terms of reversal confusion tendencies and the effects of the therapy.

Subjects: Selected from 143 underachieving children: Experimental group: 21 boys and 5 girls, mean age 8.57; Control group: 19 boys and 7 girls, mean age 8.57.
Methods: It was determined that the sex distribution of the experimental and control groups was not significantly different on the basis of chi-square analysis. The two groups were matched on many factors, including performance on the pretraining criterion behaviors. All subjects participated in some form of therapy program which was individually and diagnostically planned and administered and lasted an average of 16 semi-weekly half-hour sessions. The experimental group participated in a therapy program of developmental perceptual motor training designed to deal with diagnosed areas of deficits including reversal confusion tendencies. The control group participated in a similarly organized therapy program of orthoptic visual training which controlled for many factors (including the Hawthorne effect) without any purposeful relevance to reversal confusion tendencies. From one to four tests of reversal confusion tendencies were administered to each subject, both before and after the therapy programs. These tests included the Slingerland Screening Tests for Identifying Children with Specific Language Disability (SST), the Kirshner Directionality Test (KDT), Reversal Reading Comprehension Test (RRCT), and the Frostig Developmental Test of Visual Perception (FDVP). Extensive information was recorded for 41 variables including various characteristics of the subjects, test scores, and details of the therapy programs. Correlation coefficients were computed, and different sets of selecting criteria were subsequently applied in order to analyze and compare factors affecting the performance of many subsamples (including an experimental group and a control group matched and contrasted for apparent therapeutic effects of the training techniques).
Findings: The SST appeared to be characterized by greater face validity, construct validity, and criterion-related validity, in comparison to the KDT, the fourth subtest (Position in Space) of the FDVP, and the specially designed RRCT. Body image development and attention to directionality proved to be more valuable than other theories in explaining relationships between therapeutic techniques and reversal confusion tendencies. Techniques in perceptual motor training, compared to techniques in orthoptic visual training of no purposeful relevance in treating reversal confusions, were effective in improving performance on the Slingerland tests and the Frostig fourth subtest. The Slingerland tests may be a potentially useful means for the clinical evaluation of the development of perceptual motor processes in reversal confusion tendencies. In future research, the theories of body image development and attention to directionality may be elaborated as insightful approaches to design tools of assessment and to plan efficient therapy programs for reversal confusions of children. Contemporary approaches in the treatment of reversal confusion tendencies, employing therapy in perceptual motor training, are apparently effective but influenced by (1) the distribution of emphasis in the training techniques, and (2) the selection of children for the therapy in consideration of age and assessed need for such therapy.
Duration: February 1969-August 1973.
Publications: Copies of the study are available in photocopy or on microfilm from University Microfilms, Xerox Corporation, P. O. Box 1346, Ann Arbor, Michigan 48106 (Order #99356860).

34-DG-2 SOME ASPECTS OF FIELD DEPENDENCE IN YOUNG CHILDREN

Investigator(s): Alan D. Bowd, Ph.D., Assistant Professor, Department of Educational Psychology, University of Manitoba, Winnipeg, Manitoba, R3T 2N2, Canada.
Purpose: To examine the construct validity of certain measures of field dependence for use with kindergarten children.

Subjects: 53 kindergarten children (34 boys, 19 girls), ages 5.4 to 6.5.
Methods: Subjects are tested initially and then retested, in part, 10 months later. Data from the Children's Embedded Figures Test (CEFT), Draw-A-Person technique, perceptual egocentrism tasks, and a test of inductive reasoning were intercorrelated and factor analyzed (varimax). A follow-up on the reliability of CEFT scores was included. Sex differences and developmental aspects of CEFT scores were examined.
Findings: The investigator concluded that the field dependence tests used were of doubtful validity because there were significant correlations with perceptual egocentrism tasks and inductive reasoning. There was a lack of factorial validity for field dependence tests. The retest reliability of the CEFT was satisfactory.
Duration: April 1973-June 1974.
Cooperating group(s): University of Manitoba Research Board; Elwick Community School, Winnipeg.
Publications: (1) Bowd, A. D. The relationship between perceptual egocentrism and field-dependence in early childhood. *Journal of Genetic Psychology* (in press). (2) Bowd, A. D. Factorial independence of perceptual egocentrism. *Perceptual and Motor Skills*, 1974, 38, 453-454.

34-DG-3 THE DEGREE OF CORRESPONDENCE BETWEEN VISUAL FIGURE-GROUND TASKS AS VARIOUSLY DEFINED BY A DEVELOPMENTAL PROGRAM OF VISUAL PERCEPTION AND BY THREE TESTS PURPORTING AND TRADITIONALLY USED TO MEASURE FIGURE-GROUND PERCEPTION

Investigator(s): Laura Jordan, Ph.D., Professor, Department of Special Education, University of Illinois, 1005 West Nevada, Urbana, Illinois 61801; and Annemarie Sullivan, M.S.Ed., Learning Disabilities Consultant, Sangamon Area Special Education District, 625 East Mason, Springfield, Illinois 62702.
Purpose: To determine the degree of correspondence between visual figure-ground tasks (as defined by the Frostig Developmental Program of Visual Perception) and children's scores on three tests purporting and traditionally used to measure figure-ground perception.
Subjects: 60 boys and 53 girls in kindergarten, ages 4.0 to 6.11.
Methods: Three kindergarten teachers cooperated in this research by postponing the use of any materials specifically identified as aiding visual figure-ground perception until after completion of the study. Children in the morning kindergarten session were assigned to the experimental group, and children in the afternoon session were assigned to the control group. Both groups were pretested with the Frostig Developmental Test of Visual Perception (FDVP). The Frostig Developmental Program of Visual Perception was conducted with the experimental group only, and then both groups were posttested using the FDVP, Ayres Southern California Figure-Ground Visual Perception Test (ASCFG), and figure-ground tasks designed by Werner and Strauss. Statistical treatments included analyses of variance and the computation of a correlation matrix.
Findings: Administration of the Frostig Developmental Program of Visual Perception facilitated performance on the FDVP, but did not facilitate performance on the ASCFG or the tasks designed by Werner and Strauss to assess figure-ground perception. The value of the statistically significant correlations among these tests was so low as to render their educational significance and predictive value questionable.
Duration: August 1973-May 1974.
Cooperating group(s): Public school systems of Gibson City, Paxton, and Rantoul, Illinois.

34-DG-4 CORRELATES OF FIELD DEPENDENCY OF CHILDREN IN INDIA

Investigator(s): Shirin M. Schludermann, Ph.D., Associate Professor; and E. H. Schludermann, Ph.D., Department of Psychology, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada.
Purpose: To investigate developmental trends and variables related to field dependence.
Subjects: 800 English and Hindi medium pupils in Delhi, India, ages 10 to 16, who attend public and private schools.
Methods: The sample is broken into 2-year age groups (boys and girls, English and Hindi medium pupils) and will be analyzed separately. Subjects are matched on IQ level. Research instruments used include Witkins' Group Embedded Figures Test, Cattell's Culture Fair I.Q. Test, Jalota's Intelligence Test (Hindi), Kapoor's Socioeconomic Scale for Urban Subjects, Intellectual Achievement Responsibility Scale, Children's Report on Parental Behavior Inventory, and the Socialization Scale of the California Psychological Inventory (Hindi and English).
Duration: October 1972-June 1975.
Cooperating group(s): Canada Council, Canada.

34-DG-5 PERCEPTUAL INTEGRATION ON THE RORSCHACH AS AN INDICATOR OF COGNITIVE CAPACITY: A DEVELOPMENTAL STUDY OF RACIAL DIFFERENCES

Investigator(s): Alvin I. Gerstein, Ph.D., Director, Psychological Services; Naomi Reiskind, Ph.D., Supervising Psychologist; and David Brodzinsky, M.A., Post-Doctoral Fellow, Irving Schwartz Institute for Children and Youth, Philadelphia Psychiatric Center, Ford Road and Monument Avenue, Philadelphia, Pennsylvania 19131.
Purpose: To test the hypothesis that Black children who score low on standard IQ tests are in fact brighter than indicated; and to see if a developmental scoring system for the Rorschach Inkblot Test might be used as an alternative means of measuring cognitive capacity.
Subjects: 87 White and 86 Black children, ages 7.0 to 8.11, 10.0 to 11.11, and 13.0 to 14.11, who were evaluated at a child guidance clinic and scored 70 to 89 (low IQ) or 90 to 109 (average IQ) on the Full Scale Wechsler Intelligence Scale for Children.
Methods: Data were obtained from the subjects' clinic files. The investigators used a modification of Friedman's Developmental Scoring System to score all Rorschach Inkblot Test protocols and to obtain interrater reliability. This system yields an average developmental level (DL) score for each subject. An analysis of variance for unequal numbers was computed for the DL scores. Chi-square analyses were computed in order to compare groups in terms of the number of subjects producing at least one integrated whole response.
Findings: Developmental data showed that the youngest group performed significantly less well than the two older groups. There were no differences between the two older groups. Low IQ Black subjects performed better than low IQ White subjects. There were no racial differences between the average IQ subjects.
Duration: April 1973-April 1974.
Publications: A paper presented at Eastern Psychological Association Convention, Philadelphia, Pennsylvania, April 1974 (in press).

34-DH-1 CHILD LANGUAGE ACQUISITION: IMPLICATIONS FOR TEACHING ENGLISH AS A SECOND LANGUAGE

Investigator(s): Roselin S. Ehrlich, M.A., Researcher, Bilingual Education Applied Research Unit, Project BEST, Hunter College, Midtown, Room 614, 560 Lexington Avenue, New York, New York 10022.
Purpose: To find aspects of first language acquisition that might be applicable to second language learning in a classroom situation.
Subjects: One girl, studied from birth to 7 months of age.
Methods: The subject's vocal activity was studied from monthly tape recordings. From these tape recordings, phonetic representations of her vocal activity were made. The data were analyzed for sequence of emergence of sounds, intonation patterns, and frequency of vowels and consonants.
Findings: Emergence of vowels occurred from front to back of the oral cavity. Emergence of consonant sounds occurred from back to front of the oral cavity. Syllabic sounds (such as "da-da") occurred at 5 months. Sounds with intonation patterns began at 2 months and continued until the end of the study.
Duration: September 1973-May 1974.
Publications: Results of the investigation are available from Bilingual Education Applied Research Unit.

34-DH-2 CEREBRAL DOMINANCE FOR SPEECH AND REVERSALS IN SPELLING AND COPYING

Investigator(s): John Downing, Ph.D., Professor, Faculty of Education, University of Victoria, P. O. Box 1700, Victoria, British Columbia V8W 2Y2, Canada.
Purpose: To test the research hypothesis that reversals in spelling and copying are caused by linguistic factors and are not related to cerebral dominance.
Subjects: Pilot sample: 22 boys and 22 girls, ages 6 to 7, of low socioeconomic level.
Methods: The subjects were tested individually for dominance with a dichotic listening test consisting of a triple dichotic digit pairs tape and a single dichotic word pairs tape. A group test of spelling and copying developed by the investigator was administered. These tests consist of reversible pairs of words of two distinct linguistic types: (1) words reversible in graphemes but not in phonemes, and (2) words reversible both in graphemes and in phonemes.
Duration: June 1974-April 1975.

34-DH-3 THE USE OF PIAGET'S CATEGORIES TO ANALYZE THE SPEECH OF BLACK AND MEXICAN AMERICAN PRESCHOOL CHILDREN

Investigator(s): Margaret E. Smart, Ed.D., Associate Professor, School of Education; and Director, School for Early Childhood Education, University of Southern California at Los Angeles, Waite Phillips Hall, University Park, Los Angeles, California 90007.
Purpose: To analyze the functions of language in Black and Mexican American children; and specifically, to consider the questions: Do Black and Mexican American children engage in egocentric and social language in similar proportions to Piaget's subjects? Do these children

have equitable opportunities to satisfy their needs for talking, or are there differences between Black and Mexican American children, boys and girls, and different age groups?
Subjects: 41 children who attended school regularly over a 5-week period: 27 Blacks and 14 Mexican Americans, 27 boys and 14 girls, ages 3.5 to 6. The children were from low income families, lived in the University of Southern California neighborhood, and were enrolled in the USC preschool program for the 1973-74 school year. The Mexican Americans were from homes in which only Spanish was spoken, but the total sample was proficient in English when the study was conducted.
Methods: Each child's language was recorded for two 20-minute periods each week. Observations were scheduled so that each child was observed during all periods of the 3½-hour day. Inter-rater reliability was .95. Cross breaks were used in data analyses to indicate the frequency and proportion of the use of six of Piaget's categories describing egocentric and social language by race, sex, and age. Since each child could make more than one response in each category, the frequencies were not independent and significance tests were not appropriate.
Findings: Piaget's findings were supported. Similar proportions of egocentric and social language were obtained. There were no percentage differences between Blacks and Mexican Americans, boys and girls, and different age groups. The investigator concluded that the preschool program provided equitable linguistic opportunities for all children regardless of native language.
Duration: March 1974-April 1974.
Publications: Results are available from the investigator.

34-DH-4 LANGUAGE ACQUISITION OF A BILINGUAL CHILD: A SOCIOLINGUISTIC PERSPECTIVE

Investigator(s): Alvino E. Fantini, Ph.D., Director, Department of Language Education, School for International Training, Brattleboro, Vermont 05301; and Joseph Michel, Ph.D., Director, Foreign Language Education Center, University of Texas, Austin, Texas 78712.
Purpose: To examine the linguistic and sociolinguistic development of a bilingual child.
Subjects: One boy studied from birth to age 5 whose languages included Spanish, English, and a passive knowledge of Italian.
Methods: Longitudinal observations of the subject were compiled through a written diary and recorded tapes made at regular intervals. Besides recording the child's speech development, particular attention was given to the contextual information related to each speech event. The data were analyzed for their linguistic and sociolinguistic content. Several aspects of bilingual acquisition were examined, such as the process through which the child learns to differentiate languages and becomes aware of his bilinguality. Once the subject learned to differentiate languages, the phenomenon of code switching and its relation to social variables was examined. The effects of socialization on developing bilingualism were also considered, particularly the attitudes and behavior of the child's caretakers. In addition, the child's use of language styles was analyzed. Interference, treated as both a synchronic and diachronic phenomenon, was examined within a linguistic profile, which highlights significant stages in the emergence of phonology, vocabulary, and grammar providing insights into the child's developing language ability. Also included in the data analysis were an assessment of the child's proficiency in Spanish and English at age 5 and a comparison of his ability in each language with that of his monolingual peers.
Findings: Observations suggest that the child begins differentiation almost immediately upon contact with the two language systems, that this differentiation is facilitated by the separate use

of each language in the environment, and that the child is capable of complete code switching as early as age 2.8. The effect of social variables on language choice, the influence of the caretakers' role on the child's developing verbal behavior, and the existence of differentiated language styles as an early development in child speech are stressed. The importance of various social factors on the occurrence, direction, and degree of linguistic interference is underscored. The conclusions on style shifting and language use have general application, since all speakers (whether bilingual or monolingual) learn to modify linguistic elements in accordance with social needs.
Duration: July 1968-summer 1974.

34-DH-5 CHILDREN'S UNDERSTANDING OF EMOTIONAL AND SOCIAL CARRIERS IN LANGUAGE AND THEIR RELATION TO SOCIAL CONTEXT

Investigator(s): M. C. Grayshon, B.A., Lecturer; and M. R. Grayshon, Student, School of Education, University of Nottingham, University Park, Nottingham, NG7 2RD, England.
Purpose: To assess children's awareness of certain social roles as expressed in their spoken language; and to relate these findings to subjects' intelligence, reading age, and social class.
Subjects: 200 boys and girls, ages 5 to 11, in English Primary Schools chosen from four different areas to give a reasonable social spread.
Methods: Data are collected using Kelly's grid, with recorded utterances as one grid and self-named persons related to or having contact with the children as the other grid. Emotional carriers in conversation are located on value constructs according to the role appreciation of the unheard participants. A similar procedure is used for status.
Duration: May 1974-June 1975.
Cooperating group(s): English Primary Schools.

34-DH-6 FEASIBILITY OF SCREENING FOR LANGUAGE DISABILITIES WITH ITEMS FROM THE UTAH TEST OF LANGUAGE DEVELOPMENT

Investigator(s): Kathe Allan Yoss, Ph.D., Coordinator, Speech and Language Services, Department of Special Education, Independent School District #535, Rochester, Minnesota 55901.
Purpose: To determine the efficacy of a short screening measure for language disabled children at the kindergarten level.
Subjects: 134 girls and 139 boys: randomly selected kindergartners, ages 5.5 to 6.8, comprising 24 percent of the total kindergarten population in Rochester, Minnesota public schools.
Methods: In previous studies by Meecham *et al.* it was determined that a combination of five items from the Utah Test of Language Development (UTLD) agreed 100 percent with the total UTLD in screening out children who had a language age equivalent score of 1 year or more below their chronological age (See *Research Relating to Children, Bulletin 29*, Study 29-CC-3.) Items 19, 21, 24, 26, and 28 were administered to the Rochester kindergarten subjects within a 2-week period in January 1974 by nine speech clinicians. Items were scored either pass or fail.
Findings: Subjects (N = 170) passed the screening (all items correct), and 103 subjects failed (one or more items missed). Items 19 and 24 were the most discriminating, accounting for 74 percent of the total number of errors, and Item 26 contributed the least amount of discriminating information. Twenty-two percent of the subjects who failed the screening had an articulation problem, while only 11 percent of those who passed had an articulation problem. Chi-square analyses of male/female and pass/fail data revealed no significant differences. In a check of 15

percent of the sample for false negatives and false positives, there were no false positives; i.e., all who passed the screening also passed the complete UTLD. False negatives predominated among subjects who failed the screening by only one or two items. The investigator suggested that further comprehensive testing in areas of language processing could be eliminated for 62 percent of the Rochester kindergarten population. Other implications of the study will be extended to the entire kindergarten population in 1975 and 1976: (1) Item 26 should be replaced for this area, and (2) the screening cluster of items may prove most useful in indicating extremes of the language proficiency continuum.
Duration: January 1974-January 1976.
Cooperating group(s): Rochester, Minnesota public schools.

34-DH-7 INITIAL ACQUISITION OF BLACK ENGLISH

Investigator(s): Susan H. Houston, Ph.D., Associate Professor, Speech and Hearing Institute, Graduate School of Biomedical Sciences, University of Texas, 1343 Moursund, Houston, Texas 77025.
Purpose: To study children's acquisition of communicative competence in Black English.
Subjects: Three to five Black infants, ages 2 to 4 weeks, under study through ages 3 to 5.
Methods: Subjects are videotaped and audiorecorded (for phonological clarity) for 2 hours each week. Children are tested using Bangs' Birth-to-Three Scale, tests of development/delay of neonatal reflexes, and tests of morphological/syntactic competence.
Duration: 1974-1978.

34-DH-8 THE TRANSITION FROM SENSORIMOTOR COMMUNICATION TO SYNTAX: A CASE STUDY

Investigator(s): Anne Lindsay Carter, Ph.D., Research Coordinator, The Wright Institute, 2728 Durant Avenue, Berkeley, California 94720. Address correspondence to: P. O. Box 5073, Berkeley, California 94705.
Purpose: To study the means whereby an infant moves from the period of communication anchored in sensorimotor intelligence into the period of communication which is predominantly verbal, expressed in explicit propositional form and adhering to conventional rules of syntax.
Subjects: One White boy, ages 12 to 24 months, the firstborn child of middle class, college educated parents.
Methods: Longitudinal videotape observations generated detailed information concerning a system of sensorimotor communication which antedates linguistic communication. Constructs derived from this system are the basis for this analysis consisting of (1) a descriptive system of construct generation that is predicated upon detailed descriptions of the context of each incident and any associated long-term developmental trends, and (2) a procedure for rigorous coding of every utterance and nine situational parameters associated with each utterance to allow for quantitative analyses.
Findings: Preliminary analysis of videotape transcripts of the infant's second year indicates that a comprehensive study of these data will illuminate a number of mechanisms mediating progression between these two developmental stages.
Duration: January 1975-January 1977.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-DH-9 MORPHOLOGICAL DEVELOPMENT: BLACK ENGLISH-SPEAKING CHILDREN

Investigator(s): Kathryn Young, Graduate Student, M.A.; and Robin S. Chapman, Assistant Professor, Ph.D., Department of Communicative Disorders, University of Wisconsin, 1975 Willow Drive, Madison, Wisconsin 53706.
Purpose: To examine the use of the invariant *be* by preschool children who speak Black English.
Subjects: 30 children, ages 2 to 5, from Milwaukee's inner core who speak Black English.
Methods: Each child was shown a puppet. Absurd model sentences embodying invariant future, conditional, or distributive *be* as auxiliary or copula were presented to the child as describing the silly puppet. The child was asked to supply information on the same topic about himself; e.g., "If Ernie drank a soda, he be thirsty. How 'bout you?" This method produced a large sample of sentences containing invariant *be* in the older children studied in a brief time.
Findings: Analysis of the children's responses for obligatory contests for invariant *be* indicated a gradual increase in the number of obligatory contexts identified, with contexts for future *be* occurring earliest (MLU 2.5 to 2.9), distributive *be* occurring next (MLU 3.0 to 3.5), and conditional *be* occurring last (MLU 4.0 to 4.5). When an obligatory context within the utterance could be identified, the child usually used the appropriate invariant *be* morpheme. Acquisition of the morpheme appears much more rapid than the standard English-speaking child's acquisition of the more variable forms of auxiliary and copular *be*, as one would expect with a linguistically simpler form. The order of emergence of the three forms of invariant *be* appears to reflect the cognitive difficulty of the concepts expressed.
Duration: Spring 1974-spring 1975.

Personality

34-EA-1 THE DEVELOPMENT OF RATIONAL BELIEFS IN CHILDREN

Investigator(s): Richard Crisci, Ph.D., Psychologist, Port Washington Public Schools, 16 Belleview Avenue, Port Washington, New York 11050; and Howard Kassinove, Ph.D., Assistant Professor, Department of Psychology, Hofstra University, Hempstead, New York 11550.
Purpose: To determine at what age children begin to think rationally.
Subjects: Approximately 30 males and 30 females, ages 11 to 18, grades 6, 8, and 12.
Methods: In this developmental study, the word "rational" is used in the context of rational-emotive therapy through which individuals learn to minimize self-defeating emotions by questioning, challenging, and disputing irrational ideas or beliefs. The investigators designed The Idea Inventory, based on the work of Albert Eilis, and administered it to the subjects. Norms for The Idea Inventory will be developed, and results will be correlated with the Bell Adjustment Inventory.
Duration: September 1973-September 1974.

34-EB-1 SELF-CONCEPT AND SOCIAL RESPONSIBILITY IN CHILDREN WITH LEARNING DISABILITIES

Investigator(s): Moss A. Jackson, Ph.D., Clinical Psychologist, Pathway School, Box 18, Audubon, Pennsylvania 19407.

Purpose: To explore the interrelated areas of learning disability, self-concept, and social behavior; specifically, to focus on the relationships between low and high self-concept, anxiety, and socially effective behavior in learning disabled boys.

Subjects: 31 boys, ages 11 to 15, with learning disabilities, who scored from 80 to 117 on the Wechsler Intelligence Scale for Children.

Methods: Subjects were individually administered two self-concept measures: the Piers-Harris Children's Self-Concept Scale and the Semantic Differential. The Semantic Differential instructs the subject to rate himself as he is now, as he would like to be, and as he thinks his parents see him. Measures were also taken of social desirability, anxiety, self-confidence, and social effectiveness. In addition, two measures of social responsibility were taken: (1) helping behaviors in a social conflict situation, and (2) sharing behavior. Results were evaluated by non-parametric statistics, including Mann-Whitney U Tests and sign tests for related samples. A median split was then calculated in order to separate subjects into a high and a low self-concept group.

Findings: High self-concept boys with learning disorders significantly exhibited the following characteristics compared with low self-concept boys with learning disabilities: (1) acted more helpful in social conflict situations, (2) showed greater similarity in socially responsible behavior in either public or private situations, (3) exhibited greater self-confidence in the clas-sroom, (4) perceived less discrepancy between the way they described themselves and how they thought their parents saw them, and (5) were less anxious.

Duration: June 1973-March 1975.

Publications: A paper presented at the Eighth International Congress for Child Psychiatry, Philadelphia, Pennsylvania, August 1974: Jackson, M.A. Self-concept and social responsibility in children with learning disabilities.

34-EB-2 AN INVESTIGATION OF THE VALIDITY OF FOUR SELF-CONCEPT INSTRUMENTS

Investigator(s): R. W. Cowan, M.S.C., Department of Psychology, University of Calgary, Calgary, Alberta, Canada. Address correspondence to: Grant MacEwan Community College, 8020 - 118th Avenue, Box 1796, Edmonton, Alberta T5J 2P2, Canada.

Purpose: To investigate the construct validity of the Bledsoe Self-Concept Scale (BSCS), Purdue Self-Concept Scale (PSCS), Self-Esteem Inventory (SEI), and Children's Self-Concept Scale (CSCS).

Subjects: 96 girls and 79 boys, ages 8 to 11, from six randomly selected fourth grade classes.

Methods: Subjects completed one of the self-report instruments on the same day each week of the study until they had completed the BSCS, PSCS, SEI, CSCS, the Children's Social Desirability Questionnaire, and the Children's Manifest Anxiety Scale. The administration order was rotated and balanced between classes. A behavioral measure of each subject's self-concept, the Behavioral Rating Form, was completed by the teachers. The data were analyzed using correlational and factor analytic procedures.

Findings: The correlational analysis failed to significantly demonstrate the construct validity of the scales. The factor analysis extracted three factors: perceived adjustment, test format, and social desirability. These results implied that anxiety and self-concept scales may be measuring the same underlying factor and that sex may be affecting response style.
Duration: August 1973-June 197[illegible]
Cooperating group(s): University of Calgary, Calgary, Alberta, Canada; Calgary Roman Catholic Separate School District #1, Alberta, Canada.

34-EB-3 AN INVESTIGATION INTO THE EFFECTIVENESS OF BIBLIOTHERAPY ON THE READER'S SELF-RELIANCE

Investigator(s): Michael Langenbach, Ph.D., Associate Professor, College of Education, University of Oklahoma, Norman, Oklahoma 73069; and Jacquelyn W. Stephens, Ed.D., Assistant Professor, College of Education, Savannah State College, Box 20342, Savannah, Georgia 31404.
Purpose: To measure the effects of individually prescribed literature on the reader's self-reliance.
Subjects: 36 grade school children, ages 11 to 13, from different racial backgrounds.
Methods: Pre- and posttest measures of self-reliance were obtained using the California Test of Personality and the Teacher Rating Scale. The independent variables, IQ and reading grade placement, were used as screening criteria. The design consisted of two experimental groups and one control group. Experimental Group I (Bibliotherapy) was prescribed literature intended to promote greater self-reliance. Experimental Group II (Recreational Reading) had released time for recreational reading without prescribed literature. The control group was not prescribed literature or given released time for recreational reading. Multivariate analyses of covariance were used to analyze the data. The statistical tests were computed on the posttest scores adjusted for pretest performance.
Findings: The experimental group receiving bibliotherapy had higher adjusted posttest scores than the other two groups, but the mean differences were not statistically reliable.
Duration: November 1974-December 1974.
Cooperating group(s): Savannah-Chatham County Public School System.

34-EE-1 EARLY DEVELOPMENT OF NARCOTICS ADDICTED INFANTS

Investigator(s): Milton E. Strauss, Ph.D., Associate Professor, Department of Psychology, Wayne State University, Detroit, Michigan 48202. Address correspondence to: Department of Psychology, Johns Hopkins University, Baltimore, Maryland 21218.
Purpose: To examine the behavioral concommitants of *in utero* addiction to methadone and withdrawal during the neonatal period and the first year of life.
Subjects: 70 infants born to women receiving methadone during pregnancy and 50 infants of nonaddicted mothers matched for maternal age, parity, health status, and obstetric variables.
Methods: Infants are examined with the Brazelton Neonatal Assessment Scale at 24 and 48 hours, and addicted infants only, at 96 hours. Measures of temperament are also obtained at that time. The Bayley Scales of Infant Development are administered at 3, 6, and 12 months, at which times data on temperamental development are also obtained. Analyses of between group differences and correlational analyses are planned.

Findings: On the basis of preliminary analyses of the data on 44 neonates, it was observed that addicted infants were less able to orient themselves to visual and auditory stimuli, less alert and cuddly, and more tremulous, irritable, and state-labile. Several interactions with age emerged
Duration: January 1973-December 1975.
Cooperating group(s): Spencer Foundation; Hutzel Hospital.
Publications: Three technical reports are available from the investigator.

34-EE-2 COMPARATIVE EFFECTS OF METHYLPHENIDATE AND BEHAVIOR THERAPY IN HYPERKINETIC CHILDREN

Investigator(s): Donald F. Klein, M.D., Medical Director, Psychiatry, Research, and Evaluation; and Rachel Gittelman-Klein, Ph.D., Director, Child Development Clinic, Long Island Jewish-Hillside Medical Center, P. O. Box 38, Glen Oaks, New York 11004.
Purpose: To investigate the relative efficacy of behavior modification and methylphenidate in the treatment of hyperkinetic children.
Subjects: Nonpsychotic children, ages 6 to 12, with normal IQs, evaluated as hyperactive at home and school.
Methods: Children are randomly assigned for an 8-week period to one of three treatment groups: (1) methylphenidate, (2) behavior therapy and placebo, and (3) behavior therapy and methylphenidate. Children's behavior is assessed by parent ratings, teacher ratings, and observer ratings in the classroom.
Duration: September 1973-August 1977.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-EE-3 METHYLPHENIDATE EFFECTS IN CHILDREN WITH LEARNING DISABILITIES

Investigator(s): Donald F. Klein, M.D., Medical Director, Psychiatry, Research, and Evaluation; and Rachel Gittelman-Klein, Ph.D., Director, Child Development Clinic, Long Island Jewish-Hillside Medical Center, P. O. Box 38, Glen Oaks, New York 11004.
Purpose: To determine the value of methylphenidate when used in combination with intensive reading remediation for children with learning disabilities.
Subjects: Nonhyperactive children significantly lagging in reading performance, ages 6 to 12, of normal IQ, and without moderate or severe psychopathology.
Methods: Children receive reading remediation combined with placebo or methylphenidate treatment for a period of 4 months.
Duration: September 1973-August 1977.

34-EF-1 PREVENTION OF MALADAPTIVE AVOIDANCE RESPONSES THROUGH MODELING TECHNIQUES

Investigator(s): Ernest G. Poser, Ph.D., Professor; and Michael C. King, M.A., Doctoral Candidate, Department of Psychology, McGill University, P. O. Box 6070, Montreal 101, Quebec, Canada.

Purpose: To develop, through analogue investigation, modeling techniques that can prevent the development of avoidance responses in populations at risk to develop such responses.
Subjects: 41 boys and 26 girls in first grade, average age 7.2, described by their teachers and various rating scales as free of any outstanding behavioral or learning disorders.
Methods: Children who reported no prior contact with snakes were exposed to one of two modeling styles and one of two verbalization conditions. One group of subjects, the coping modeling group, observed filmed models who were initially fearful and later fearless, while the mastery modeling group observed models who were fearless throughout the snake interaction situation. The effects of observing these two modeling styles were compared. Also, the effects of adding relevant verbalizations were investigated. The control group viewed a film with no model and received no treatment. After the posttreatment assessment, all subjects were shown a stressor film of a snake attacking, killing, and eating a mouse. Then another assessment was conducted. Dependent variables in the study were the approach test, rating scale, and palmar sweat index.
Findings: Mastery modeling plus verbalization was the most effective technique assessed. Subjects in this group displayed stronger approach, less fear related behavior, and lower levels of arousal than control groups. Both mastery groups showed no change from basal levels of arousal at poststress assessment. Coping modeling appears to have intensified fear in some children.
Duration: September 1973-June 1974.
Cooperating group(s): Medical Research Council of Canada.
Publications: Poser, E. G. and King, M. C. Strategies for prevention of maladaptive avoidance responses. *Canadian Journal of Behavioral Science,* 1974.

34-EF-2 VERBAL REPORT MEASURES FOR WAITING ROOM FEAR AND DENTAL WORK STRESS IN THE YOUNG CHILD

Investigator(s): J. Barnard Gilmore, Ph.D., Associate Professor, Department of Psychology; and B. A. Richardson, D.D.S., Associate in Dentistry, Faculty of Dentistry, University of Toronto, Toronto, Ontario, Canada.
Purpose: To develop a scale that is easily administered to predetermine a child's anxiety about dental work.
Subjects: First Stage: 200 children; Second Stage: 50 children; Third Stage: 200 children, ages 2½ to 11. The sample includes equal numbers of boys and girls, who attend a paedodontic practice for dental treatment. A parent accompanies the child to treatment sessions.
Methods: A scale was developed from the initial group based on three measures. A questionnaire was answered by the mother, and an index of behavior during treatment was developed by the dentist. In addition, a projective type test was developed during which psychologists observed the children at play with toys categorized into specific areas. The three scores were correlated.
Findings: Two scales were developed suitable for fast and unobstrusive indexing of children's fear levels when under dental stress.
Duration: 1968-1970.
Cooperating group(s): University of Waterloo, Psychology Department.

Social

34-FA-1 EXPERIMENTS ON CHILDREN'S CHARITY

Investigator(s) Donna M. Gelfand, Ph.D., Professor; Donald P. Hartmann, Ph.D., Associate Professor; Cindy C. Cromer, B.A., Graduate Student; Cathleen L. Smith, M.A., Graduate Student, Department of Psychology, 502 Behavioral Science, University of Utah, Salt Lake City, Utah 84112; Stephen C. Paul, B.A., Graduate Student, Department of Psychology, University of Missouri, Columbia, Missouri 52202; and Dan V. Lebenta, IDARP Project Manager, Utah State Division of Alcoholism and Drugs, 554 South Third East, Salt Lake City, Utah 84112.

Purpose: To demonstrate that children's charitable behavior can be acquired through prompting and positive reinforcement or through avoidance and escape training.

Subjects: Study 1: 9 kindergarten and 23 first grade boys and girls. Study 2: 50 boys and girls, ages 6 to 10, recruited from public schools and day care facilities.

Methods: Both between group and within group (N = 1) designs were used to demonstrate that children with low initial rates of donation to a needy peer can be induced to increase their donation rates when told that they can escape from or avoid either a fine or a loud noise by making a donation. Children were also prompted to donate and subsequently praised for donations. In Study 1 the role of verbal praise in the acquisition and maintenance of a helping response was investigated. The subjects played a marble drop game during one or more phases of a modified ABAB design. The basic components of the design were baseline and praise conditions. An instructional prompt was introduced at varying points within both of these conditions. The introduction of the prompt ("Maybe it would be nice if you helped that other boy get his marble back once or twice.") during baseline permitted an assessment of the effects of the prompt alone on the child's rate of helping. During the praise condition, a single prompt was again introduced to produce a helping response which could then be praised. Thereafter in the praise condition, no further prompts were presented; the experimenter simply praised the child each time he made a helping response. In Study 2, an escape-avoidance procedure was employed with 16 children, while a response cost procedure was employed with 34 children. During the training of the escape-avoidance procedure, the onset of the "Help Light" (CS) was followed by a 5-second, 90 decibel white noise blast (NCS). Four of the subjects also received instructions describing the donating noise contingency, and four other subjects also observed the experimenter model the contingency. Following the baseline trials of the response cost procedure, the experimenter informed the subjects that they could also lose tokens as indicated by a digital display. Two tokens were lost each time subjects failed to donate before the onset of the "Help Light." Twenty-eight subjects also received contingency instructions similar to those employed under the escape-avoidance procedure.

Findings: Study 1: Results demonstrate the importance of verbal praise in sustaining some children's helping behavior. A third of the subjects spontaneously donated during the baseline trials, and an additional fifth demonstrated consistent donating following the experimenter's prompt. Data from subjects who continued to donate throughout a second baseline period suggest the long lasting effects of exposure to positive consequences for helping. Study 2: Model-exposed subjects under the escape-avoidance procedure displayed superior acquisition and maintenance of help-giving behavior. In contrast, contingency-instruction subjects performed slightly better than subjects receiving escape-avoidance training only, most of whom

were unresponsive. Subjects who received contingency instructions under the response cost procedure rapidly acquired and maintained a donating rate ≥ 90 percent. Only one subject who received the response cost condition without contingency instruction increased donating, even though these subjects received up to six additional blocks of training trials. Study 2 demonstrates the importance of modeling and related instructional methods for rapid acquisition of help-giving behavior.

Duration: Study 1: August 1973-August 1974.
Study 2: September 1972-September 1973.

Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) A paper presented at the Rocky Mountain Psychological Association meetings, Denver, Colorado, May 1974: Cromer, C. C.; Smith, C. L.; Gelfand, D. M.; Hartmann, D. P.; and Page, B. C. The effects of instructional prompts and praise on children's altruistic behavior. (2) A paper presented at the Western Psychological Association meetings, San Francisco, California, April 1974: Hartmann, D. P.; Gelfand, D. M.; Smith, C. L.; Paul, C.; Cromer, C. C.; and Labenta, D. V. Help or else: The effects of avoidance training procedures on children's altruistic behavior.

34-FB-1 CHILDREN'S TOY AND ACTIVITY PREFERENCES: SEX LINKED?

Investigator(s): Phyllis A. Katz, Ph.D., Professor; and Carol A. Seavey, M.A., Graduate Student, Department of Educational Psychology, Graduate School, University Center, City University of New York, 33 West 42nd Street, New York, New York 10036.

Purpose: To study the relationship between sex of child and his/her preferences for various toys, activities, and occupations.

Subjects: 150 Black and White children from grades 1, 3, and 5, of lower and lower-middle socioeconomic status.

Methods: Subjects were divided into groups based on sex, grade level, race, and sex of experimenter. They were presented with arrays of pictures of toys, same-sex and same-race children engaging in activities, and same- and opposite-sex adults participating in activities. Subjects were asked to rank order items in each array according to preference. Additional measures of sex role attitudes and stereotyping were obtained. A repeated measures analysis of variance was performed on the data.

Findings: Many interactions of sex of subject with preference were obtained, but findings were complex, indicating that preferences were not a function of sex alone. Developmental level, sex of experimenter, and race of subject were also related to choice behavior.

Duration: March 1971-October 1974.

Publications: Information is available from Dr. Katz.

34-FC-1 CHILDREN'S DRUG USE: EDUCATIONAL AND OTHER CORRELATES

Investigator(s): Richard H. Blum, Ph.D., Director, Joint Program in Drugs, Crime, and Community Studies, Center for Interdisciplinary Research, Stanford University, Stanford, California 94305.

Purpose: To identify patterns of nonmedical psychoactive drug use in a sample of suburban children, linking age of onset, type of use, and continuity of use with school performance, child background, and family characteristics; and to assess the impact of three kinds of drug education on drug use onset and continuation in a 2-year follow-up.
Subjects: 1,200 high school students and 2,100 elementary school students in grades 2, 4, 6, 8, and 10 in 12 participating schools.
Methods: The subjects are randomly assigned to three types of drug education in the schools: basic (a brief informational approach), didactic (a comprehensive informational approach), and process (a decision making and value clarification approach). Project staff members conduct all the drug education classes, and consequently, the project staff designs and field tests curricula as well as screens available drug education materials. A group administered, written questionnaire is given to students in grades 6 to 10, while second and fourth graders are individually interviewed using color photographs. The instruments are used to gather data on availability of drugs and experience and intentions of users. The data gathering procedure in the classroom allows the investigator to compare test replies administered by the project staff at 6-month intervals. Results will provide information on what kind of child begins what kind of drug use when, how education affects that use, and what happens over 2 years.
Duration: September 1971-August 1975.
Publications: No preliminary reports will be published. Forthcoming handbook: A. Abrams, E. Garfield, and J. Swisher (Eds.), *Accounting in drug education: A model for evaluation.* Available from Drug Abuse Council, 1828 L Street, N.W., Washington, D. C. 20036.

34-FD-1 LIFE GOAL QUESTIONNAIRE

Investigator(s): Eleanore Fisher, M.A., Director, Pupil Personnel Services, Briarcliff Manor Public Schools, Briarcliff Manor, New York 10510.
Purpose: To determine whether or not high school students perceive lifestyles and career goals as being different depending upon one's sex; and to sensitize students to their own stereotyped thinking.
Subjects: 365 male and female high school students, grades 9 to 12, ages 13 to 18.
Methods: A questionnaire was administered to the students with no prior discussion of sex roles or sex stereotyping. No explanation was given of the purpose of the questionnaire. Students were asked to be as frank as possible, and their responses were to be anonymous. The students were first asked, "What do you see as your life goal? What would you consider a fulfilling life?" After completing their answer, students were instructed to "Answer the above questions as if you were a member of the opposite sex."
Findings: Responses were tabluated in three categories: (1) equal, (2) unequal, but not necessarily stereotyped, and (3) stereotyped putdown of typical female role. Of the 365 subjects, 182 (76 males, 106 females) fell into category (1); 99 subjects (59 males, 40 females) fell into category (2); and 84 subjects (30 males, 54 females) fell into category (3).
Duration: March 1974-completed.

34-FD-2 SEX ROLE STEREOTYPES IN LEARNING TO READ

Investigator(s): John Downing, Ph.D., Professor, Faculty of Education, University of Victoria, P. O. Box 1700, Victoria, British Columbia, V8W 2Y2, Canada.
Purpose: To test the hypothesis that cultural expectations in a North American community involve the perception of reading as being more suitable for young females than for young males.
Subjects: 743 males and females, ages 6 to adult.
Methods: Subjects were administered a test consisting of 12 pictures of stick persons performing various activities including reading. The subject responded either "boy" or "girl" to indicate for which sex the activity was considered more suitable.
Findings: Reading was associated significantly more often with "girl" at all age levels except the youngest.
Duration: March 1974-July 1974.

SPECIAL GROUPS OF CHILDREN

Physically Handicapped

34-GB-1 STUDY OF SERVICES FOR CHILDREN WITH MALIGNANT DISEASES

Investigator(s): Victor Eisner, M.D., Clinical Professor; Helen M. Wallace, M.D., Professor; and Hyman Goldstein, Ph.D., Research Biostatistician, Maternal and Child Health Program, School of Public Health, University of California at Berkeley, Berkeley, California 94720.
Purpose: To delineate the pathways of casefinding, diagnosis, referral, and care of children with malignant diseases; to identify sources of delay in getting such children under treatment; and to explore patient and parent attitudes towards the treatment of childhood cancer cases.
Subjects: 400 children: 100 chosen randomly from each age group: ages 1 to 4, 5 to 9, 10 to 14, and 15 to 19. Approximately 200 children have leukemia, and 200 children have other types of cancer.
Methods: Interviews will be conducted with parents of each child. Additional data will be obtained from patients 15 years of age and older. Interview data will be related to (1) identification; (2) age; (3) sex; (4) duration of symptoms and of illness; (5) symptoms that brought patients to primary care; (6) diagnostic and therapeutic procedures at source of primary care prior to referral; (7) route followed to the definitive source of care from casefinding—to diagnosis—to referral—and finally to treatment; (8) delays encountered along the route in terms of type of delay and reasons for delay; and (9) attitudes of parents (and of children 15 years and older) towards care received at each of the sources.
Duration: July 1975-June 1978.
Cooperating group(s): California Registry for Cancer Epidemiology, California State Department of Public Health, Berkeley, California.

34-GC-1 KNOWLEDGE OF IDIOMS OF DEAF AND HEARING STUDENTS

Investigator(s): Janet Conley, M.Ed., Research Assistant, 60 Perrin Avenue, Lincoln Estates, Gettysburg, Pennsylvania 17325; and McCay Vernon, Ph.D., Professor, Department of Psychology, Western Maryland College, Westminster, Maryland 21157.
Purpose: To compare knowledge of idiomatic structure between deaf and hearing students; and to establish norms for the Conley-Vernon Idiom Test.
Subjects: Approximately 450 hearing students, ages 7 to 19, in grades 2 to 12, and with reading levels 1.5 to 12.5; and approximately 140 deaf students, ages 12 to 20, with reading levels 2.0 to 12.5.
Methods: The Conley-Vernon Idiom Test was given to all subjects during the school year. In the test, which consists of two forms each with 50 multiple choice questions, the testee selects the answer that best fits the context of the sentence. Scores will be compared according to students' reading levels and ages to determine if deaf children have more difficulty with idiomatic structure than hearing children, and to ascertain the kind of difficulty deaf children have.

Findings: Preliminary observation indicates that deaf students do have more difficulty with idiomatic structure than hearing students.
Duration: January 1974-September 1974.
Cooperating group(s): Maryland School for the Deaf.
Publications: Tests are available from Dr. McCay Vernon.

34-GC-2 A FOLLOW-UP STUDY OF ADJUSTMENT AND SCHOOL ACHIEVEMENT OF CHILDREN ORIGINALLY REFERRED FOR LEARNING PROBLEMS CAUSED BY BRAIN DAMAGE

Investigator(s): Otfried Spreen, Ph.D., Professor, Department of Psychology, University of Victoria, Victoria, British Columbia, Canada.
Purpose: To follow-up on the adjustment and school achievement of children originally referred for learning problems caused by assumed or demonstrated brain damage.
Subjects: 400 children, ages 10 to 20, originally seen on referral in Victoria, Duncan, and Nanaimo, British Columbia for learning problems and neurological and psychological examinations.
Methods: The subjects will be traced and recalled, or examined, at their present location. The 20 neuropsychological tests given to the subjects at the original consultation will also be given to the subjects at the follow-up consultation. Follow-up consultations occur from 4 to 10 years after the original consultation. Data will be examined for the prognostic value of indications of brain damage for later life adjustment.
Cooperating group(s): School Boards of Victoria, Duncan, and Nanaimo, British Columbia; Department of Health and Welfare, Canada.

34-GC-3 COGNITIVE DEFICITS IN CHILDREN WITH SPINA BIFIDA AND HYDROCEPHALUS

Investigator(s): Elizabeth M. Anderson, M.A., Research Officer, Thomas Coram Research Unit, University of London Institute of Education, 41 Brunswick Square, London, WCIN IAZ, England.
Purpose: To conduct a broad survey on the extent and nature of cognitive deficits in children with spina bifida and hydrocephalus; and to study in detail writing difficulties and distractability in children with spina bifida and hydrocephalus.
Subjects: Phase I: 30 boys and girls, ages 7 to 10, with spina bifida and hydrocephalus, with IQs of 60 and above, matched for age, sex, and reasoning ability with 30 children with cerebral palsy and 30 nonhandicapped children. Phase II: 20 boys and girls with spina bifida and hydrocephalus and 20 nonhandicapped children.
Methods: In Phase I, three groups of 30 children each were compared on the basis of a wide range of abilities including overall intellectual ability, verbal skills, visual-perceptual skills, visual-motor skills, manual skills, reading attainment, and personality factors. Individual testing was conducted using the Columbia Test of Mental Maturity, Wechsler Intelligence Scale for Children, Marianne Frostig Developmental Test of Visual Perception, Neales Analysis of Reading Ability, English Picture Vocabulary Test, Developmental Test of Hand Function, and Kagan Matching Familiar Figures Test. The data will be analyzed primarily using multivariate analysis of variance. In Phase II, two groups were studied in regard to handwriting ability.

Manual skills, which involve the use of a pencil but no actual writing, were studied including dotting between two circles, tracing abstract symbols, and crossing speed. Subjects were given letters, digits, and single words, first by dictation, and then to be copied, in order to analyze the types of errors made by children with spina bifida and normal children. To assess the speed and quality of subjects' writing, the children copied a series of abstract symbols under two conditions: with normal visual feedback and with kinesthetic feedback only. Subjects also copied sentences under three conditions: (1) with normal visual feedback, (2) with kinesthetic feedback only, (3) with an additional verbal cue or prompt designed to improve the spacing of words. Both speed and quality of writing were scored for this task. Results of Phases I and II will be analyzed according to handicap, sex, and age (i.e., 7- to 8½-years-olds versus 8½- to 10-year-olds. Since a high proportion of the spina bifida group is left or mixed handed, the results will also look for the effects of handedness.

Duration: January 1973-August 1975.

Publications: Anderson, E. M. Cognitive deficits in children with spina bifida and hydrocephalus: A review of the literature. *British Journal of Educational Psychology*, 1973, 43(3), 257-268.

34-GE-1 REHABILITATION ENGINEERING CENTER

Investigator(s): William Berenberg, M.D., Professor, Department of Pediatrics, Harvard Medical School, Children's Hospital Medical Center, 300 Longwood Avenue, Boston, Massachusetts 02115.

Purpose: To devise innovative and purposeful techniques utilizing medical and engineering skills for the rehabilitation of physically disabled children.

Methods: All of the investigator's research has been conducted in the laboratory. Thus, the study has not reached the point of clinical application to children. Sophisticated and advanced engineering technology combined with neurophysiology techniques are being utilized to investigate gait analysis, EMG, biofeedback systems, revision of shunt valves for hydrocephalus, tactile reception of sound, sensori reception of visual stimuli through tactile receptors, strain reaction in the correction of scoliosis, and quantitative measurements of spasticity.

Duration: May 1974-continuing.

Cooperating group(s): Massachusetts Institute of Technology.

34-GE-2 PREPLACEMENT INSTRUCTIONAL PROGRAM FOR SEVERELY MULTIHANDICAPPED CHILDREN

Investigator(s): Kathleen Lolis, Ph.D., School Research Psychologist, Office of Educational Evaluation, Board of Education of the City of New York, 110 Livingston Street, Brooklyn, New York 11201.

Purpose: To determine the effectiveness of an instructional program to increase multihandicapped children's skills and self-help in grooming, feeding, walking, and in facilitating their social, motor, intellectual, and emotional development.

Subjects: 18 boys and girls, ages 6 to 9, with birth anomalies and postnatal neurological deficit; some with handicaps of blindness, others with muscle dysfunction, severe hearing loss, intellectual retardation on a primary and/or secondary basis, and emotional problems. All subjects

were unable to attend an educational facility other than one that was designed especially for them.

Methods: Description and evaluation of the program was accomplished through observation of the individual children. Ratings were made by a psychologist on six criterion variables: (1) increase in self-help in dressing and undressing; (2) increase in self-responsibility in toileting; (3) increase of skills in self-feeding; (4) increase of skills of mobility (i.e., walking); (5) enhancement in capable children of the acquisition of childhood skills, such as size, color, and shape discriminations, number concepts, and finger dexterity in games; and (6) facilitation of social, emotional, motor, and intellectual development, which will enable the individual youngster to enter and maintain himself/herself in an established education class.

Findings: The program has been successful in increasing the self-help skills of pupils in dressing, toileting, feeding, and mobility, and in the development of cognitive skills.

Duration: 1971-continuing.

Cooperating group(s): Bureau of Education for Handicapped, Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; Industrial Home for the Blind; Title VI, Elementary and Secondary Education Act.

Publications: Results may be obtained from the Office of Educational Information Services, Board of Education of the City of New York, Room 1214A, 110 Livingston Street, Brooklyn, New York 11201.

34-GE-3 MODIFIED MANUAL COMMUNICATION FOR DEAF-BLIND CHILDREN

Investigator(s): Jerome D. Schein, Ph.D., Director; Martin L. A. Sternberg, M.S., Coordinator, Communication Services; and Carol C. Tipton, M.A., Associate Research Scientist, Deafness Research and Training Center, School of Education, New York University, 80 Washington Square East, New York, New York 10003.

Purpose: To test the feasibility of modified manual communication as a communicative mode for deaf-blind children.

Subjects: 75 deaf children with severely impaired vision, ages preschool to 16.

Methods: Forty hours of instruction in modified manual communication were given to teachers, dormitory staff, and parents of deaf-blind children at the New York Institute for the Education of the Blind. Standard American Sign Language was modified to make it optimally visible for deaf-blind children. Teachers then introduced this communicative mode in their classrooms. The principal method of data collection is repertorial, with both objective and subjective evaluation of the pupils by their teachers. Continuing follow-up is being conducted.

Findings: Teaching staff at the New York Institute for the Education of the Blind have reported unprecedented communication breakthroughs with several of the children. One young deaf-blind girl now has a vocabulary of 1,200 words, as compared to none at the start of the program. Parents and house staff are equally enthusiastic. Some children are beginning to socialize and relate to their environment for the first time.

Duration: January 1972-December 1974.

Cooperating group(s): Region II (Mid-Atlantic North and Caribbean Region) Services to the Deaf-Blind; Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; New York Institute for the Education of the Blind; National Center for Deaf-Blind Youths and Adults.

Publications: A manual of modified signs and a 16 mm. motion picture, demonstrating modified signs and their use in sentence construction, are available. The movie and manual will be distributed as a package to the 10 Regional Offices of the Social and Rehabilitation Service.

34-GE-4 EVALUATION OF BEHAVIORAL CHANGE IN PRESCHOOL CHILDREN

Investigator(s): Ronnie Gordon, M. S., Director, Pre-School and Infant Development Program, Institute of Rehabilitation Medicine, New York University Medical Center, 400 East 34th Street, New York, New York 10016.

Purpose: To examine the quality and direction of changes in functioning of young multiply handicapped children during and after an intensive stimulation program; specifically, to study (1) the varied developmental patterns of growth of very young handicapped children, (2) the development of methods of recording and analyzing changes in functioning based on observations in a naturalistic setting, and (3) the patterns of growth for interrelationships which will be predictors of degree and category of change.

Subjects: 40 multiply handicapped children, ages 1½ to 3, who have been inpatients at the Institute of Rehabilitation Medicine in the Infant Program (average length of stay, 3 months).

Methods: Data are comprised of anecdotal records written by teachers on three of five full morning sessions per week for each child for the duration of the child's stay. These logs consist of a description of the child's behavior coded along psychoeducational dimensions. Several of these dimensions are hierarchically ordered to reflect complexity of behavior. The validity of the teachers' anecdotal records was examined by obtaining concurrent data from four different sources: (1) master teachers' logs, (2) intern teachers' logs, (3) nonparticipant observers' running records, and (4) videotapes from over six separate morning sessions. Records from the four sources were coded, analyzed, compared, and contrasted using codings and analyzing methodologies developed. Analysis of the children's behavioral change has focused on changes over time and on changes in function from admission to discharge. Videotaped diagnostic play sessions are also analyzed using aspects of the same system of analysis.

Findings: Preliminary findings indicate that teachers' anecdotal records do furnish a valid picture of the individual child's functioning and activities. The master teachers' data are proportionately comparable to the records written by the nonparticipants and the tapes, even though they are subject to such biases as selective perception and memory. Also, the master teachers' logs contained additional information concerning teacher's intent in varying situations. Comparison of the master teachers' and intern teachers' logs pointed out the substantial qualitative and quantitative effects of increased knowledge, practice, and understanding of children. The intern teachers' logs contained less codeable information and yielded less data. The investigator concluded that the coding and analysis system is applicable to various methods of observing and recording behavior; i.e., prose, records, and videotapes. Behavior changes from before to after the intensive stimulation program, but patterns and types of change are highly individual. When the total group is examined, significant positive correlations are obtained between the hierarchically ordered dimensions. Empirical findings are consistent with children's mental age and interdisciplinary clinical ratings.

Duration: July 1972-June 1975.

Cooperating group(s): Bureau of Education for Handicapped, Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; Bank Street College of Education, New York, New York.

Publications: Gordon, R. Educational programs developed in a rehabilitation center to service and study multihandicapped young children—State of the Art, 1974. In T. Tjossem (Ed.), *Proceedings of the Conference on Early Intervention with High Risk Infants and Young Children* (sponsored by the President's Committee on Mental Retardation). Baltimore: University Park Press (in press).

34-GE-5 CHILD'S ELECTRICALLY POWERED ELBOW

Investigator(s): Sidney Fishman, Ph.D., Senior Research Scientist; and William Lembeck, B.S., Research Scientist, Department of Prosthetics and Orthotics, Post-Graduate Medical School, New York University, 317 East 34th Street, New York, New York 10016.
Purpose: To develop a prototype model of an electrically powered child-sized elbow that offers more power with less weight than the models currently available.
Methods: The following methods are being employed to develop an electrically powered elbow: use of (1) the most efficient DC high speed motor available; (2) a precision spur gearing to produce a speed reduction with very high mechanical efficiency; (3) a micro-miniature motor and gear-reducer which operates in the stalled condition to produce a self-locking device with a minimum power consumption; and (4) high-strength, low weight aluminum alloys and engineering plastics.
Findings: The first prototype model performed in accordance with theoretical expectations.
Duration: January 1973-December 1974.
Publications: Drawings and models of the completed elbow will be made available to commercial fabricators of these devices.

34-GE-6 MICHIGAN INFANT POWERED HOOK

Investigator(s): Sidney Fishman, Ph.D., Senior Research Scientist; Susan G. Bergholtz, M.A., Associate Research Scientist; and Leon Bennett, M. Aero., Senior Research Scientist, Department of Prosthetics and Orthotics, Post-Graduate Medical School, New York University, 317 East 34th Street, New York, New York 10016.
Purpose: To evaluate the functional characteristics of approximately 36 hooks; and to determine their acceptance among child amputees.
Subjects: Nine boys and 11 girls, ages 4 to 12. 16 of whom have multiple limb losses. All but two children have previously worn a prosthesis.
Methods: The hook under study is basically a cylinder containing a motor, gearhead, and pulley which is attached to a Dorrance 10-X hook and is activated by a push-button switch. Each subject is fit for the hook. Evaluations occur before and during prosthetic fitting, after training, and 2 and 5 months after prosthetic delivery. The data collected deal with patient selection, fitting and maintenance, performance levels, training experience, and subjective reactions of the child and clinic team.
Findings: Preliminary findings on a small sample indicate favorable reactions to the device by the children and clinics. The most positive reactions are related to the ease of operation of the device. Maintenance of the hook has presented some difficulties, but the project's engineering group is attempting to solve these problems.
Duration: July 1974-May 1975.
Cooperating group(s): Thirty-four amputee clinics throughout the United States and Canada.
Publications: A report will be published by the Department of Prosthetics and Orthotics, Post-Graduate Medical School, New York University.

34-GE-7 EVALUATION OF THE CAPP TERMINAL DEVICE

Investigator(s): Sidney Fishman, Ph.D., Senior Research Scientist; Susan G. Bergholtz, M.A., Associate Research Scientist; and Leon Bennett, M.Aero., Senior Research Scientist,

Department of Prosthetics and Orthotics, Post-Graduate Medical School, New York University, 317 East 34th Street, New York, New York 10016.
Purpose: To evaluate the CAPP terminal device (prosthesis), which consists of an injection-mold Delrin shell that contains the complete mechanism of the unit with a center pull voluntary opening control and prehension force supplied by a spring.
Subjects: Children, ages 0 to 7, with a unilateral amputation at least 1 to 1½ inches proximal to the ulnar styloid.
Methods: Twenty-four CAPP terminal device units are being used by the investigators to test their performance in daily living activities and to determine their acceptability among children amputees. Evaluations will occur before and during prosthetic fitting, after training, and 2 and 5 months after prosthetic delivery. Data collected will deal with patient selection, fitting and maintenance, performance levels, training experience, and subjective reactions of the child and clinic team.
Duration: October 1974-July 1975.
Cooperating group(s): Thirty-four child amputee clinics throughout the United States and Canada.
Publications: A report will be published by the Prosthetics and Orthotics Department, Post-Graduate Medical School, New York University.

34-GE-8 EARLY CHILDHOOD EDUCATION FOR THE HANDICAPPED

Investigator(s): Octavia B. Knight, Ph.D., Professor, Department of Special Education; and Quentine Finch, M.Ed., Coordinator, Early Childhood Education for the Handicapped, North Carolina Central University, Fayetteville Street, Durham, North Carolina 27707.
Purpose: To improve the quality of educational opportunities available to handicapped children.
Subjects: Seven girls and three boys with handicaps, ages 3 and 4, IQs of 73 to 156, from low socioeconomic homes.
Methods: The Learning Center is a laboratory for inservice special education students to study techniques of working with young exceptional children. Emphases are on manipulation, imitation, and kinesthetic methods. A series of sequential activities with well-defined goals has been developed and implemented for 2 years. The children are tested through formal and informal assessment, and observation checklists and progress records are kept for each child.
Findings: Project activities appear to be successful. Preliminary information indicates positive results for the children enrolled.
Duration: 1973-1976.
Cooperating group(s): Bureau of Education for Handicapped, Office of Education, U. S. Department of Health, Education, and Welfare.
Publications: Results of the study will be available from Dr. Knight.

34-GE-9 MULTIMEDIA INSTRUCTION IN TOTAL COMMUNICATION

Investigator(s): Richard G. Brill, Ed.D., Superintendent; and Rod Brawley, M.A., Project Coordinator, California School for the Deaf, 3044 Horace Street, Riverside, California 92506.
Purpose: To improve the communication between hearing parents and deaf children through the development of parents' and children's manual communication.

Subjects: 30 families composed of a deaf child and hearing parents: 10 families each with children, ages 3 to 4; ages 5 to 6; and ages 7 to 8.
Methods: Television tapes will be developed in a pilot study, and cassettes will be made to teach fundamental sign language to the hearing parents of deaf children. A workbook to accompany the films will also be developed. An advisory panel will judge the quality of the films. The efficiency of the films will be evaluated by pretesting subjects, followed by instruction utilizing the films of those in the experimental group, and then posttesting the experimental and control groups.
Duration: February 1974-June 1977.
Cooperating group(s): Elementary and Secondary Education Act, Title III.

34-GF-1 SELF-IMAGE AND FAMILY TENSION OF CHRONIC KIDNEY PATIENTS

Investigator(s): Roberta G. Simmons, Associate Professor, Department of Sociology, 1114 Social Sciences Building, University of Minnesota, Minneapolis, Minnesota 55455.
Purpose: To study the self-image and family tension of children suffering from chronic kidney disease, with special focus on kidney transplantation patients; and to pose the following questions: Do chronically ill children and normal children in families where there is chronic illness show the pattern of development of the normal child in which early adolescence is particularly stressful for the child and his/her self-image? Do the chronically ill children show these stresses as early as the normal children? Are their problems more severe?
Subjects: 125 chronically ill children with significant kidney disease, ages 10 to 16, their normal siblings, and their mothers; and 1,917 randomly selected school children from Baltimore.
Methods: Subjects treated for chronic renal disease at the University of Minnesota are interviewed on a structured interview schedule. Various dimensions of their self-attitudes will be compared to those of their normal siblings: sense of distinctiveness, preoccupation with self, self-esteem, self-consciousness, stability of the self-image, the view of others' pictures of the self, the extent to which a front or facade is maintained, and the body-image. These self-attitudes will be related to attitudes towards illness, perception of family tensions, and personal and school adjustment. Other major factors reflecting their general adjustment are measured and related to the self-image: academic performance, level of interaction with friends, level of depression and anxiety, level of participation in activities, and attitudes towards illness. Mothers are interviewed in order to investigate family stress and the family's method of coping with the chronically ill child. Questions to be answered include: On whom does the greatest burden fall in different types of families? Which family members seem most and least affected? In addition, kidney transplant patients are being interviewed with a structured questionnaire preoperatively, postoperatively, and a year later in order to be able to evaluate the success of this therapy in improving the patient's self-image, family adjustment, and social rehabilitation. Transplanted adults and children are being studied from this perspective; the children also receive a psychiatric evaluation.
Duration: October 1970-continuing.
Publications: Simmons, Roberta G. and Simmons, Richard L. Sociological and psychological aspects of transplantation. In J. S. Najarian and R. L. Simmons (Eds.), *Transplantation.* Philadelphia: Lea and Febiger, 1972.

34-GF-2 EFFECTS OF TWO MODES OF PARENT TRAINING ON LEARNING AND COGNITION OF DEAF CHILDREN

Investigator(s): Rosslyn Gaines, Ph.D., Associate Professor, Department of Psychology, Neuropsychiatric Institute, University of California at Los Angeles, 760 Westwood Plaza, Los Angeles, California 90024

Purpose: To develop two modes of parent training; and to measure the effectiveness of each training session by focusing on the child's behavior in pre-, post-, and follow-up studies.

Subjects: 90 deaf children, ages 6 to 9; 45 families.

Methods: The design consists of extensive pre-, post-, and follow-up study of the children's school behavior, school performance, cognitive development, communication in the family, and cooperation with parents. Parents are interviewed in regard to their childrearing attitudes and are administered cognitive and personality tests. Parent measures will investigate sources of success or failure in training effectiveness in comparison to child and parent control groups. Two types of family intervention are used: child emphasis versus self-emphasis.

Duration: May 1974-May 1978.

Cooperating group(s): Southwest School District for Hearing Impaired.

Mentally Retarded

34-HB-1 A DIAGNOSTIC APPROACH TO DIFFERENTIATE BRAIN DAMAGED FROM NON-BRAIN DAMAGED ADOLESCENTS

Investigator(s): Gerald Fuller, Ph.D., Director, Psychology Center; and Douglas Friedrich, Ph.D., Associate Professor, Research Director, Department of Psychology, Central Michigan University, Sloan Hall, Mount Pleasant, Michigan 48859.

Purpose: To continue to study the problem (in evaluating mentally retarded persons) of differentiating between the brain damaged and non-brain damaged; specifically, to cross-validate Hillow's (1971) multiple discriminate analysis method; to compare this method to actuarial table diagnosis; and to continue to explore the best combination of brain damaged and non-brain damaged predictors.

Subjects: 106 brain damaged adolescents who indicated cerebral dysfunction and structural damage, with mean intelligence level 67.91 (SD = 11.81) and mean age 15.41 (SD = 2.76); and 135 adolescents previously diagnosed as non-brain damaged, with a family history of retardation and no presence of organic signs in their history or neurological examinations, with mean intelligence level 69.15 (SD = 8.51) and mean age 14.95 (SD = 2.35). None of the subjects had gross visual defects present. The 241 adolescents were from Mount Pleasant State Home and Training School and Traverse City State Hospital, Michigan.

Methods: Records of the subjects' performance on the Minnesota Percepto-Diagnostic Test were examined. Key variables noted were the Minnesota Percepto-Diagnostic rotation T-score; and the subjects' performance on separations of circle and diamond figures (SpCD), on distortions of the circle and diamond figures (DCD), and on distortions of the dot patterns (DD). Age and intelligence were also variables. Numerous multiple discriminate analyses employing these variables were computed.

Findings: Using Hillow's appropriate multiple discriminate constants and coefficients for these subjects resulted in relatively poor predictive coefficients for brain damaged and non-damaged

adolescents. (SpCD, DCD, DD: combined hit rate = 63%). Conducting multiple discriminate analyses for the variables SpCD, DCD, DD, intelligence, T-score rotation, and age resulted in relatively high predictive coefficients (combined brain damaged and non-brain damaged predictive coefficients for analysis of the following set of variables: SpCD, DCD, DD, SpCD, DCD, DD, IQ: SpCD, DCD, DD, T-score: and SpCD, DCD, DD, age: was .78 for each one). The multiple discriminate analysis using all six variables yielded the highest hit rate. The investigators concluded that the research on actuarial table diagnosis and multiple discriminate analyses indicates high hit rates with both techniques, and that it may be wise to use both predictive techniques when making diagnostic decisions with the retarded. The investigators also concluded that the Minnesota Percepto-Diagnostic Test is a sensitive diagnostic tool in assessing brain dysfunction.

Duration: September 1972-January 1974.

Cooperating group(s): Mount Pleasant State Home and Training School, Michigan; Traverse City State Hospital, Michigan.

Publications: (1) Hillow, P. Comparison of brain damaged and non-brain damaged retarded children on two visual-motor tasks. Unpublished Master's thesis, North Carolina State University, 1971. (2) Fuller, G. B. The Minnesota Percepto-Diagnostic Test (Revised). *Journal of Clinical Psychology* (Monograph Supplement), 1969, 28. (3) Fuller, G. B. and Hawkins, W. F. Differentiation of organic from non-organic retarded children. *American Journal of Mental Deficiency,* 1969, 74, 104-110. (4) Sternlicht, M.; Pustel, G.; and Siegel, L. Comparison of organic and cultural-familial retardates on two visual-motor tasks. *American Journal of Mental Deficiency,* 1968, 72, 887-889. (5) Burnett, A. and Fuller, G. B. The Minnesota Percepto-Diagnostic Test performance in educable mentally retarded children: Standardization, normative data, comparison with other diagnostic groups and detection of organic brain damage. *Psychology in the Schools,* 1966, 3, 176-180.

34-HC-1 EMERGENCE OF A BIOLOGICAL RHYTHM IN MENTALLY RETARDED CHILDREN WHEN CERTAIN PSYCHOLOGICAL TESTS ARE REPEATED AT REGULAR INTERVALS

Investigator(s): John W. Lovett Doust, M.B., F.R.C.P., Head; and Ints Podnieks, M.A., Research Psychologist, Section of Psychophysiology, Clarke Institute of Psychiatry, 250 College Street, Toronto, Ontario, M5T 1R8, Canada.

Purpose: To evaluate brain damage in children.

Subjects: 90 cooperative retarded boys and girls, ages 10 to 18, with IQs around 50 and no perceptual handicaps; and a comparison group of healthy boys and girls with bright, normal intelligence.

Methods: Following a brief psychometric appraisal, critical flicker fusion thresholds (CFF) were determined for both groups of subjects at 60-second intervals for 20 minutes. Subsequently, a 15-second tapping test was undertaken for each hand and then repeated at similar intervals. The sequential performances of each subject were computed by a Linc-8 program.

Findings: Periodicities of ultradian length were obtained reaching statistical significance. Spontaneous endogenous cycles in the healthy children for both types of psychological measures were identical with those previously found using physiological measures. The cycles were shorter but equally evident in the mentally retarded children.

Duration: 1971-1974.

Cooperating group(s): Ontario Mental Health Foundation, Toronto; Beverly Street School; Metropolitan Toronto Association for the Mentally Retarded.

34-HD-1 AETIOLOGICAL SURVEY OF THE SEVERELY SUBNORMAL CHILDHOOD POPULATION LIVING IN THE COMMUNITY

Investigator(s): Renata Lax, M.D., Ph.D., Consultant Clinical Geneticist; and Michael A. C. Ridler, Principal Scientific Officer, Kennedy-Galton Centre, Harperbury Hospital, Harper Lane, Shenley, Radlett, Herts, WOF OHQ, England.
Purpose: To classify the conditions from which severely subnormal children suffer; to give genetic counseling to their parents and families; and to indicate prenatal diagnosis when necessary.
Subjects: 200 severely retarded children living in Hertfordshire, England and the surrounding district, born from January 1, 1965 to December 31, 1967.
Methods: Each child's family history and personal history will be studied. Clinical investigation and measurement and chromosome studies will be conducted for each child.
Duration: March 1973-December 1975.

34-HH-1 PROGRAMMATIC RESEARCH PROJECT IN PHYSICAL EDUCATION FOR MENTALLY RETARDED CHILDREN AND YOUTH

Investigator(s): Janet A. Wessel, Ph.D., Professor; and P. Vogel, Ph.D., Instructor, College of Education, Department of Health, Physical Education, and Recreation, Michigan State University, Room 135, Women's Intramural Building, East Lansing, Michigan 48823.
Purpose: To develop, implement, evaluate, and disseminate a diagnostic prescriptive motor activity program for trainable mentally impaired children with (1) instructional modular materials adapted to each target group's motor skill, learning and language characteristics, and (2) an innovative training program and materials to facilitate implementation and demonstration of the program by classroom teachers in special education, physical education specialists, and combined delivery systems.
Subjects: 400 trainable mentally impaired boys and girls, ages 5 to 14.
Methods: After developing criteria for instruction, task analysis was used to create a hierarchy of instructional tasks. Prototype curriculum materials were designed and field tested in 6 to 10 classes. After revisions in the curriculum were made, field testing was conducted on 20 to 25 school field sites using approximately 35 classroom teachers, physical education specialists, and combinations of the two. This phase included collection of data by monitoring, interviews, questionnaires, and pre- and postteacher performances. Curriculum effectiveness was evaluated on the basis of logical analysis, experts' review of accuracy of content, teacher judgment and usability, and student achievement or learner effectiveness. The basic structural element of the completed "I Can Curriculum in Physical Education and Recreation" is the performance objective for continuous progress and individualized instruction to meet the specialized needs of each learner. Performance objectives include (1) criterion-reference measures and diagnostic tools to assess student strengths and needs; (2) prescriptive teaching and learning activities coded to need assessment (basic skill components, learner's response level, social grouping for play, and health/fitness level); (3) pupil progress reporting and recordkeeping through continuous evaluation and through teacher observation and evaluation of student outcomes; and (4) active learning options by providing for the cross-connection of all major behavioral objectives germane to each physical activity and to classroom learnings. The curriculum is designed for three target groups with corresponding target skills. The preprimary group, ages 0 to 5, is primarily characterized by impaired or slow rate of growth in developmental and maturational skills such as walking, talking, and other sensory-motor-cognitive affective accomplishments particularly relevant to moving, growing, and playing. Instructional

materials for this group focus on learning to move, play, and learn. The primary school group, ages 5 to 14, is characterized by impaired learning ability in motor, verbal, and language skill activities. Target skills for this group are aquatics, body management, fundamental skills, and health/physical fitness. The later continuing school group, ages 14 to 25, is primarily characterized by poor social-work-leisure adjustments, lack of independence, and difficulties in problem solving and decision making in the worlds of work and leisure. Instructional materials for this group emphasize leisure skills such as camping and outdoor education, neighborhood and community activities, and special games and events.

Duration: June 1971-August 1975.

Cooperating group(s): Bureau of Education for Handicapped, Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; Local educational agencies on 20 field test sites in Michigan.

34-HI-1 PARENTS' PRAISE AND GRIEVANCES CONCERNING TWO PRIMARY PROGRAMS OF THE MARION COUNTY ASSOCIATION FOR RETARDED CHILDREN: DIRECT CONSUMER RESEARCH

Investigator(s): Gerald D. Alpern, Ph.D., Professor, School of Medicine, Indiana University, 1100 West Michigan Street, Indianapolis, Indiana 46202; and James T. Hunt, M.S.W., Student, Graduate School of Social Service, Indiana University, Indianapolis, Indiana 46202.

Purpose: To conduct a meaningful consumer satisfaction survey with clients from an agency for the retarded that would yield negative as well as positive responses, poll the entire population, and offer directions for agency change.

Subjects: Parents and guardians of children in two major programs of the Marion County Association for Retarded Children. Approximately 130 families were sampled. Most of the interviewees were mothers.

Methods: Subjects were contacted in a random order by an interviewer clearly identified as independent of the agency. The interviews were conducted in confidentiality, either in person or through prearranged telephone conferences. The interviews were carefully designed through pilot work to elicit both negative and positive feedback in an atmosphere conducive to open communication. In addition, the interview instrument contained structured sections to obtain specific voting on program aspects and unstructured sections to allow for all communications from subjects.

Findings: The specific findings of the study have been of tremendous use to the agency (1) in providing objective reports on consumer satisfaction to its board and the community, and (2) in offering a collection of opinions about the agency which permits direction for constructive change. The findings demonstrate to extra-agency professionals the usefulness of the employed techniques for gaining valid feedback from a large proportion of an agency's population.

Duration: January 1974-April 1974.

Cooperating group(s): The Marion County Association for Retarded Children, Indiana.

Publications: A comprehensive write-up of the study is available from the Marion County Association for Retarded Children, 2400 North Tibbs Avenue, Indianapolis, Indiana 46222.

34-HK-1 ATTITUDES AND LIFE COMMITMENTS OF OLDER SIBLINGS OF MENTALLY RETARDED ADULTS: AN EXPLORATORY STUDY

Investigator(s): Douglas W. Cleveland, M.S.W., Psychiatric Social Worker, Fairview State Hospital, 2501 Harbor Boulevard, Costa Mesa, California 92626; and Nancy A. Brown, M.S.W., Social Work Training Coordinator, University Affiliated Facility for Interdisciplinary Training in Mental Retardation, Neuropsychiatric Institute, University of California at Los Angeles, 760 Westwood Plaza, Los Angeles, California 90024.

Purpose: To add knowledge to the understanding of the mentally retarded child's impact on the family; to begin to define critical variables that are related to successful adjustment of siblings; to suggest possible implications for current and future treatment of families with a retarded child; and to suggest areas for further research.

Subjects: 90 men and women, ages 25 and older, who are elder siblings of 72 mentally retarded residents of a state hospital, ages over 18.

Methods: A mail questionnaire was constructed to elicit responses about the normal subject's recollection of his childhood and adolescent experiences involving the retarded sibling. The questionnaire, primarily a closed-end, multiple choice instrument, was also designed to elicit information about the normal subject's adult life commitments and the effect the retarded sibling had on the commitment. Three areas of major commitments addressed in the questionnaire were career, marriage, and family. Data were analyzed by chi-square tests to determine if there were differences within the normal subject population based on sex, number of children in the family, and level of education.

Findings: In all of the variables explored, the majority of the siblings reported a positive adaptation to the retarded sibling and the experiences surrounding having a retarded sibling. They did not report adverse effect on their childhood and adolescent life experiences or influence on their career, marriage, or family decisions. Among the minority who did report effects on their childhood and adolescent or adult life experiences, male respondents reported less involvement with retarded siblings and having less knowledge about the retarded sibling's condition. The female respondents reported a close relationship to their retarded siblings. They reported knowing more about the sibling's condition, but also reported more effect on childhood, adolescent, and adult life experiences and commitments. The oldest female siblings reported more often that they had sought professional counseling and that they were employed in helping careers, such as teaching, social work, and nursing. Normal females, who were the only sibling of the retarded child, reported much more often that their career choice and their decision to have children were affected by having a retarded sibling.

Duration: December 1973-July 1974.

34-HK-2 PARENTAL INVOLVEMENT IN FACILITATING THE DEVELOPMENT OF YOUNG MENTALLY HANDICAPPED CHILDREN

Investigator(s): Dorothy M. Jeffree, M.Ed., Research Fellow; and Roy McConkey, Ph.D., Research Fellow, The Hester Adrian Research Centre, University of Manchester, Manchester M13 9PL, England.

Purpose: To investigate means by which parents can be guided to become more effective in aiding their mentally handicapped child's development; to establish the effectiveness of specially designed teaching games for use by parents; and to disseminate information arising from the project to professional workers and other parents.

Subjects: 25 children, ages 2 to 5, selected for intensive work from a population of 150 severely mentally handicapped children.
Methods: The major part of the project consists of a careful study of preschool mentally handicapped children and their parents seen on an average of 20 separate occasions over a year. During this time, teaching schemes directly involving the parents will be carried out and evaluated. In the latter stage of the project, the parents will be using these schemes in their own homes. Information arising from the project will be disseminated to other professionals.
Duration: September 1973-October 1977.
Cooperating group(s): Department of Health and Social Security, Department of Education and Science, England.
Publications: Jeffree, D. M. and McConkey, R. A language facilitation scheme designed for classroom use with young mentally handicapped children. *Special Education* (in press).

Emotionally Disturbed and Mentally Ill

34-JA-1 VERMONT CHILD DEVELOPMENT PROJECT

Investigator(s): Jon E. Rolf, Ph.D., Assistant Professor; Joseph E. Hasazi, Ph.D., Associate Professor; George W. Albee, Ph.D., Professor; and James A. Mulick, M.A., Research Assistant, Psychology Department, University of Vermont, Burlington, Vermont 05401. Address correspondence to: Child Development Project, Fort Ethan Allen, 600 Dalton Drive, Winooski, Vermont 05404.
Purpose: To conduct an epidemiological survey of competence and behavior disorders of large samples of preschool children in the Champlain Valley area of Vermont; and to conduct an intensive program of observation, measurement, and therapeutic intervention for selected target groups of vulnerable and nonvulnerable preschool-age children at the University of Vermont's Home Care Enrichment Center.
Subjects: Over 300 children, ages 2 to 6, in day care and home care in Chittenden County, Vermont. Subjects are added throughout the life of the project.
Methods: The epidemiological survey will be conducted for an initial period of 3 years. Assessments are undertaken at least semiannually. Complete health and family background data are obtained for each child represented in the survey. Periodic assessment of subjects' cognitive and behavioral competence are made with a behavior checklist developed for completion by parents or day care staff. The intervention portion of the project runs concurrently. Children identified as vulnerable and their controls are phased into the Home Care Enrichment Center for as long a period as possible. These children receive the Center's regular program and individualized therapeutic experiences to promote the acquisition of greater competence in all areas. Annual follow-up assessments are planned to gauge the long-term trends in subjects' behaviors. The impact of day care experiences on adaptation to the public schools for vulnerable and nonvulnerable children will also be assessed.
Duration: 1973-1976.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare; Vermont State Department of Mental Health; Visiting Nurses Association of Vermont; Chittenden County School Systems, Vermont; Vermont Office of Child Development; Vermont Office of Rehabilitation and Social Services.

34-JC-1 DEVELOPING CLASSES FOR EMOTIONALLY DISTURBED DEAF CHILDREN

Investigator(s): Doris W. Naiman, Ph.D., Director of Training, Deafness Research and Training Center, School of Education, New York University, 80 Washington Square East, New York, New York 10003.

Purpose: To establish new programs for emotionally disturbed deaf children, including classes to prepare the children to return to regular classrooms; and to investigate approaches to working with emotionally disturbed deaf children.

Subjects: Four classes of emotionally disturbed deaf children exhibiting patterns of maladaptive behavior which interfere with their ability to function and learn in existing programs for hearing impaired children.

Methods: Four classes for emotionally disturbed deaf children were established at a New York City junior high school. New York University consultants met weekly with teachers, supervisory staff, and supportive people at the school to provide guidance. Systematically applied behavior modification techniques were used to change maladaptive behaviors and to insure that the children regularly experienced success in school. Careful consideration was given to differences in emphasis and to modification of procedures used with hearing disabled emotionally disturbed children, such as attention to communication modes as well as process. In some of the children the basic problem was lack of academic achievement, and remediation was among the strategies considered. Criteria for success were based on behavior changes which promoted return to the regular classroom.

Findings: Most of the children showed changes towards more acceptable behavior.

Duration: September 1973-August 1974.

Publications: Naiman, D. W.; Schein, J. D.; and Stewart, L. New vistas for emotionally disturbed deaf children. *American Annals of the Deaf,* 1973, 118(4).

34-JC-2 THE ROLE OF CONGENITAL RUBELLA IN THE ETIOLOGY OF CLINICAL MANIFESTATIONS OF CHILDHOOD PSYCHOSIS AND LANGUAGE DISORDERS

Investigator(s): Ronald B. Feldman, M.D., Director, Department of Child Psychiatry; Jack Mendelson, M.D., Director, Department of Microbiology; Joseph Portnoy, M.D., Department of Microbiology; and Stanley Rothman, M.D., Department of Neurology, Jewish General Hospital, Montreal, Quebec H3T 1E2, Canada; and Margaret Golick, M.Sc., Senior Psychologist, Learning Clinic, McGill-Montreal Children's Hospital, 1615 Cedar Avenue, Montreal, Quebec, Canada.

Purpose: To determine the prevalence of children with previously undetected congenital rubella in large populations with language, learning, and severe behavioral disorders; and to attempt to characterize the developmental course of these children.

Subjects: 750 boys and girls (about 150 under age 6) chosen from all children born since 1960, who attended learning clinics, speech and language clinics, and psychiatric day treatment centers in the Montreal area. Only children whose natural mothers are available for study are included.

Methods: Rubella hemagglutination-inhibition titres of each subject and his/her mother will be determined. A detailed questionnaire completed by the mother and trained research staff supplies information on family patterns, socioeconomic status, prenatal and perinatal history, and developmental data. The clinic and hospital records of each child are independently reviewed and the data classified on a coded item checklist. Although HAI seropositivity does not dis-

tinguish children who have had prenatal rubella from those who have had postnatal rubella infections, the demonstration of a significantly larger number of children with seropositivity in the study groups would offer some evidence of the presence of children with congenital rubella infection, when groups are suitably matched. It is now known that a certain percentage of children with congenital rubella will become seronegative by age 5, and that these children do not seroconvert when challenged with rubella vaccine. All seronegative children in the study are vaccinated with Meruvax, and serology will be repeated to locate those who fail to convert. These children constitute a specifically high risk group for congenital rubella and will be studied in greater detail. Detailed physical, laboratory, audiological, psychological, linguistic, and psychiatric evaluations will be done on high risk children and on selected controls.
Duration: April 1973-December 1975.
Cooperating group(s): Queen Elizabeth Hospital, Montreal.

34-JF-1 GROWTH AND FAMILY PATTERNS IN CHILDHOOD SCHIZOPHRENIA

Investigator(s): William Goldfarb, M.D., Director, Henry Ittleson Center for Child Research, Jewish Board of Guardians, 5050 Iselin Avenue, Riverdale, New York 10471.
Purpose: To study the longitudinal development, communication, and psychosocial backgrounds of schizophrenic children.
Subjects: Schizophrenic boys and girls, ages 6 to 12.
Methods: A longitudinal research design consists of testing and observation of subjects, including experimental analyses of communication patterns in children and families and standardized testing of neurological functions and family functioning. Therapeutic improvement of communication is also noted.
Duration: 1962-1977.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: (1) Goldfarb, W.; Levy, D. M.; and Meyers, D. I. The mother speaks to her schizophrenic child (Frieda Fromm-Reichman Memorial Lecture). *Psychiatry,* August 1972, 35(3), 217-226. (2) Goldfarb, W.; Goldfarb, N.; Braunstein, P.; and School, H. Speech and language faults of schizophrenic children. *Journal of Autism and Child Schizophrenia,* 1972, 2(3), 219-233. (3) Goldfarb, W. The clarifying experience in the psychotherapy of psychotic children. In *Current Psychiatric Therapies, Vol. X.* New York, New York: Grune and Stratton, 1970. Pp. 52-75. A list of additional publications is available from the investigator.

34-JF-2 PROSPECTIVE STUDY OF CHILDREN OF SCHIZOPHRENIC PARENTS

Investigator(s): L. Erlenmeyer-Kimling, Ph.D., Associate Research Scientist, Department of Medical Genetics, New York State Psychiatric Institute, 722 West 168th Street, New York, New York 10032.
Purpose: To conduct longitudinal examinations on the development of children at risk for schizophrenia.
Subjects: 205 White, English-speaking boys and girls, ages 7 to 12. Subjects are the children of (1) schizophrenic mothers, (2) schizophrenic fathers, (3) two schizophrenic parents, (4) parents with other psychiatric disorders, or (5) normal parents.

Methods: The children are examined at 2-year intervals. Assessment includes psychological tests, psychiatric examinations, neurological examinations, and psychophysiological and neurophysiological recordings.
Duration: February 1971-January 1980.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Department of Mental Hygiene, New York.
Publications: (1) A paper presented at the International Symposium of the World Psychiatric Association on "Aspects of Schizophrenia": Erlenmeyer-Kimling, L. Gene-environment interaction and the prospective approach to the study of schizophrenia. In *Proceedings of the U.S.S.R. Academy of Medical Sciences* (in press). (2) Erlenmeyer-Kimling, L. A prospective study of children at risk for schizophrenia: Methodological considerations and some preliminary findings. In Roff and Wirt (Eds.), *Proceedings of the Sixth Conference of the Society for Life History Research in Psychopathology*. Minneapolis: University of Minnesota Press (in press).

34-JF-3 EXPERIMENTAL STUDIES IN CHILDHOOD SCHIZOPHRENIA

Investigator(s): O. Ivar Lovaas, Ph.D., Professor, Department of Psychology, University of California at Los Angeles, 405 Hilgard, Los Angeles, California 90024; Robert Koegel, Ph.D., Assistant Professor, University of California at Santa Barbara, Santa Barbara, California 93106; and Laura Schreibman, Ph.D., Assistant Professor, Claremont Men's College, Bauer Center, Claremont, California 91711.
Purpose: To treat autistic children under 3 years old with a particular form of behavior therapy; and to observe children's improvements on definable and measureable dimensions as compared to improvements of a group of children receiving other treatments.
Subjects: Three boys and one girl, ages 2 to 3, diagnosed as autistic by agencies unassociated with the study.
Methods: Control subjects (other treatment groups) are matched to experimental subjects according to mental age. Data are collected at each therapy session in the clinic and in the home. Emphasis is placed on parent training procedures.
Findings: One of the major barriers to learning in autistic children involves stimulus overselectivity or selective attention. Autistic children appear unable to attend to multiple sensory input.
Duration: September 1973-August 1979.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-JG-1 A PROGRAM FOR PARENTS OF EMOTIONALLY DISTURBED DEAF CHILDREN

Investigator(s): Doris W. Naiman, Ph.D., Director of Training; Keith Muller, M.S.W., Assistant Research Scientist; and Lily Corbett, B.A., Communications Specialist, Deafness Research and Training Center, School of Education, New York University, 80 Washington Square East, New York, New York 10003.
Purpose: To help parents of emotionally disturbed deaf children provide effective support at home to reinforce the help they receive at school; to help parents communicate better with their

child; to assist parents to obtain needed social service support; to provide parents with knowledge about deafness and deaf people; and to teach parents effective ways of handling their child in daily life situations.
Subjects: 29 parents (10 males and 19 females) of emotionally disturbed deaf children who attend special classes at a New York City junior high school. A total of 19 families are involved.
Methods: Home visits are made to each family to assess family structure and needs in the four basic areas of income, housing, medical services, and general services. Social services supports are rendered in the four areas. Weekly sign language instruction is provided to the parents. Instructional sessions are also conducted in which various factual aspects of deafness are discussed, and periodic sessions are arranged to discuss specific child behaviors and developmental phases. Group meetings are conducted to focus on helping parents explore their feelings and attitudes about deafness and their deaf children.
Findings: Home visits and sessions combining manual communication and group counseling seem especially beneficial.
Duration: January 1974-December 1974.
Cooperating group(s): Kugel Foundation.

34-JG-2 TREATMENT ALTERNATIVES PROJECT

Investigator(s): Alan R. Gruber, D.S.W., Director of Research; and Edward T. Heck, Ph.D., Associate Director of Research, Boston Children's Service Association, 3 Walnut Street, Boston, Massachusetts 02108.
Purpose: To test the effects and impact of providing intensive community based services for families and their severely emotionally disturbed children who have already been referred for residential treatment.
Subjects: Boys and girls, ages 4 to 17, who have been diagnosed as severely emotionally disturbed and in need of residential treatment.
Methods: Children are assigned to the Treatment Alternatives Project at random. A comparison group of children enters residential treatment as prescribed. The Treatment Alternatives Project either directly, or through the purchase of service, provides all necessary services which a child and family may need in order to assist them to maintain their status in the community while making greater gains towards adequate social functioning. These services include medical, dental, psychological, social, and educational services. In some cases, homemakers or foster parents are utilized. Each caseworker handles a small caseload that enables him or her to sustain frequent and consistent contact with the child and family. In all cases, the social worker maintains a direct treatment relationship with the child and family (sometimes sharing that responsibility with other helping professionals) and maintains an active advocacy role in order to insure that the child and family receive services from other community facilities. The project also utilizes a service and cost accounting system to monitor the amount of professional time each child and family receives and to assure that each case is attended to on an active basis. Periodic review and evaluation is performed by a committee every 3 months on each active case and every 6 months on each inactive case. The periodic review instrument is composed of six sections: face sheet, mental status, treatment summary, treatment dispensed, medical review, and goal attainment charts.
Findings: After 1 year, 70 percent of the project sample had been maintained in their own communities and homes while still showing significant gains in social functioning. Fifteen percent had been placed in foster homes, and 15 percent had been admitted to residential treatment

centers. Current data from the project's service and accounting system indicate that project services are substantially less expensive than institutional care.
Duration: January 1973-December 1975.
Cooperating group(s): Massachusetts Department of Public Welfare; Godfrey M. Hyams Trust.
Publications: Copies of the first annual report of the Treatment Alternatives Project may be obtained from the Boston Children's Service Association.

34-JG-3 CORRECTIVE SOCIAL INTERACTION THERAPY

Investigator(s): Shirley Sanders, Ph.D., Assistant Professor; and Ursula Koriath, B.A., Research Assistant, Department of Psychiatry, North Carolina Memorial Hospital, Chapel Hill, North Carolina 27514.
Purpose: To develop a clinical intervention program for problem children and their families based on re-educating parents in successful social interaction patterns with their child; specifically, to provide baseline information about what interactions occur between parents and child; and to measure changes of interaction over time as a result of the training program.
Subjects: Experimental group: 10 sets of parents and children randomly selected from the Child Psychiatric Inpatient Unit of North Carolina Memorial Hospital. Control group: 33 boys and girls, ages 6 to 13, matched for age and socioeconomic status to experimental group children. The subjects were selected randomly from a normal school population and divided into four groups: (1) parent-child control, (2) no-parent intervention control, (3) adult-child control, and (4) no child intervention control.
Methods: The intervention program involves the correction of social interaction patterns by training the parents and child in various techniques of imitation, role modeling, and mutual role playing. Negative interaction patterns are modified by teaching the subjects specific techniques of interpersonal communication such as following, listening and accepting, modeling and positive feedback, and limit setting and compromising. A diagnostic interview is conducted which is designed to help parents and the child become familiar with the research project and role playing, to determine specific problems and goals appropriate to the family's needs, and to provide baseline observations of the spontaneous interaction patterns between parents and child prior to any intervention procedures. Parents complete a Behavior Checklist on their child before and after the training program. During the first baseline session and at the end of the training program, an observer rates the child's behavior on a Social Interaction Scale. This scale, compiled from observations during baseline sessions, is useful in determining how the child interacts with his parents. In order to gain feedback on the effectiveness of the training program, samples of spontaneous behavior of the parent and child are collected in three baseline sessions: one before any intervention, one following two practice sessions, and another following two additional practice sessions. During a baseline session, an observer scores one interaction every 15 seconds according to parent behaviors and child behaviors. An interaction is defined as consisting of a parent stimulus behavior, a child's response, and an outcome as determined by either parent or child.
Findings: Results from a prior pilot study reveal that the initial baseline demonstrates that parents of disturbed children use a high percentage of demands along with very little feedback about the child's behavior. The initial baseline also suggests that children respond approximately as many times in an appropriate manner as in an inappropriate manner. The pattern is similar to that of random responses that may be associated with lack of appropriate

feedback from the parents. After intervention, the results indicate that as parents provide more appropriate modeling and feedback stimuli, the children become more appropriate in their behavior.

Duration: June 1971-August 1975.

Cooperating group(s): Chatham County Public Schools, North Carolina.

34-JG-4 FAMILY THERAPY OUTCOME STUDY

Investigator(s): J. Santa-Barbara, Ph.D., Assistant Professor; C. Woodward, Ph.D., Associate Professor; S. Levin, M.D., Associate Professor; N. Epstein, M.D., Professor; J. Goodman, Ph.D., Associate Professor; and D. Streiner, Ph.D., Associate Professor, Department of Psychiatry, McMaster University Medical Centre, 1200 Main Street West, Hamilton L8N 3L6, Ontario, Canada.

Purpose: To map out the variables related to successful and unsuccessful outcome in family therapy.

Subjects: Study 1: 175 intact families (both mother and father in the home) in which the identified patient, age 6 to 12, has academic or behavioral school problems. Families may be new or reopened cases. Study 2: 75 single parent families with the same characteristics of Study 1. Study 3: 50 intact families in which the identified patient is between ages 13 and 16 and has any presenting problem.

Methods: Data are collected before and after family therapy at the Chedoke-McMaster Child and Family Centre. Demographic data on the family, change of state information (reason for case closure and number of therapy sessions), and therapists' status (discipline, years experience) are collected routinely at the center. Measures of the child's academic functioning and estimates of parents' current intellectual functioning are gathered before and after therapy. Measures administered to the children include the Wechsler Intelligence Scale for Children Block Design and Vocabulary Subtests; Wide Range Achievement Test Reading, Spelling, and Arithmetic Subtests; and the Gilmore Oral Reading Test. The Shipley Institute of Living Scale is used with parents. Before and after treatment, the identified patient's teacher reports the number of deviant behaviors occurring in the classroom using the Ottawa School Behaviour Checklist. The family's therapist rates prognosis on a 4-point scale and rates perception of change during therapy on a 5-point scale. The therapist sets three to six goals for the family in the areas of child functioning and family functioning. Goal attainment is scored at therapy termination by independent and trained follow-up workers. Family satisfaction report: Families are interviewed in their homes to determine their level of satisfaction with the services received at the center, whether they saw a change in child and family functioning, and whether they attribute this change to their treatment at the center. Recidivism: Treatment sought at the center, at other agencies, or from doctors is recorded. For Study 3, pre- and posttreatment personality assessments are made of parents and identified patient using the Minnesota Multiphasic Personality Inventory. Adolescents' perceptions of their own problems are examined before and after treatment with the Mooney Problem Checklist. Data will be analyzed by cross-tabulation and stepwise multiple regression. Variation in outcomes will be explained in terms of families' characteristics at the time of treatment and a variety of treatment characteristics (number of sessions, therapist characteristics, etc.). In addition, a random sample will be used to develop a predictor model of outcome which will be tested using the remainder of the sample. Characteristics of families who refuse to participate in the study will be compared to characteristics of participating families.

Findings: Preliminary analyses carried out for a subsample of 68 participating families yielded significant correlations (Pearson r) between each of the therapist variables examined and client satisfaction, while client variables were primarily correlated with goal attainment scores.
Duration: March 1972-June 1975.
Cooperating group(s): Medical Research Council, Canada; Health and Welfare, Canada; Chedoke-McMaster Child and Family Centre; local school boards.
Publications: (1) A paper presented at The Society for Psychotherapy Research Conference, Denver, Colorado, June 1974: Santa-Barbara, J. *et al.* Variables related to outcome in family therapy: Some preliminary analyses. (2) A paper presented at the Nathan W. Ackerman Memorial Conference, Margarita Island, February 1974: Woodward, C. A. *et al.* Outcome in family therapy: Or the growing edginess of family therapists. (3) A paper presented at the Goal Attainment Scaling Workshop, Minneapolis, Minnesota, October 1973: Santa-Barbara, J. and Woodward, D. A. Use of goal attainment scaling to evaluate outcomes in family therapy.

34-JH-1 TREATMENT PROGNOSIS AND DURATION AS RELATED TO ATTRACTIVENESS AND INTELLIGENCE

Investigator(s): M. G. Magnussen, Ph.D., Chief Psychologist; and Juergen Homann, M.D., Clinical Director, Pittsburgh Child Guidance Center, 201 De Soto Street, Pittsburgh, Pennsylvania 15213.
Purpose: To study the Yavis syndrome (the impression that the youthful, attractive, verbal, intelligent, and successful person is a more likely individual to receive psychotherapy) by examining how the Yavis syndrome variables relate to prognostic statements and actual duration of treatment services delivered to children in a child guidance center; and to test the hypotheses that (1) better prognosis for treatment is made if the child patient is attractive, (2) better prognosis for treatment is made if the child is verbal, (3) treatment duration is significantly longer if the patient is attractive, and (4) treatment is significantly longer if the patient is verbal.
Subjects: 200 outpatient boys, mean age 9.9, who were being treated for psychiatric disorders by male clinicians in the Pittsburgh Child Guidance Center.
Methods: Four patient groups of 50 boys each (verbal, nonverbal, attractive, unattractive) were equated for age, mean IQ, and the type of presenting problems (utilizing "conduct problems," Quay, 1961).
Findings: The hypothesis that better prognosis for treatment is made if the child patient is attractive was not supported. The results supported the hypothesis that better prognosis for treatment is made if the child is verbal. Attractive children are more likely to receive longer duration of treatment than unattractive children. Treatment duration is longer if the child patient is verbal.
Duration: 1973-completed.
Publications: Results of the study are available from the investigators.

34-JH-2 LEVODOPA AND LEVOAMPHETAMINE: A CROSS-OVER STUDY IN SCHIZOPHRENIC CHILDREN

Investigator(s): Magda Campbell, M.D., Associate Professor, Department of Psychiatry, Medical Center, New York University, 550 First Avenue, New York, New York 10016.

Purpose: To explore the effects of levodopa on young autistic schizophrenic children; and to compare such effects with those of levoamphetamine.
Subjects: 12 patients (10 boys and 2 girls), ages 3 to 6 years (mean age = 5.2). Eleven children are autistic schizophrenics, and one child has withdrawing reaction and chronic brain syndrome.
Methods: Data analysis was handled manually in this controlled cross-over study. A demographic assessment instrument, developed by the investigator, and a diagnostic instrument (Diagnostic and Statistical Manual II, 1968) were used. Behavioral rating scales included the National Institute of Mental Health and Symptom Severity Scale (Fish, 1968) and clinical Global Impressions Scale. Toxicological ratings and laboratory tests were also made.
Findings: With levodopa treatment, five children showed improvement, five children did not change, and two became worse. The greatest improvements were in a decrease in negativism and an increase in energy, motor initiation, and play. Levoamphetamine yielded poor results in this population, confirming the investigator's earlier findings with dextroamphetamine.
Duration: 1972-completed.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Departments of Medicine, Pediatrics, and Neurology, New York University Medical Center.

34-JH-3 HYPERACTIVITY IN PRESCHOOLERS AND THE EFFECT OF METHYLPHENIDATE (RITALIN)

Investigator(s): Michael Schleifer, Ph.D., Psychologist; and Gabrielle Weiss, M.D., Psychiatrist, Montreal Children's Hospital, 2300 Tupper Street, Montreal, Quebec, Canada.
Purpose: To isolate the behavioral and cognitive functions in hyperactive preschoolers; to provide better diagnostic procedures for hyperactive preschoolers; and to test the effect of methylphenidate (Ritalin) as a treatment for these children.
Subjects: 44 preschool children, ages 3½ to 5. Half of the subjects were diagnosed and treated as hyperactive and the other half were normal controls matched on sex, age, IQ, and class.
Methods: Data for hyperactive-control comparisons were obtained from three sources: observations of the children in a nursery school, individual psychological tests, and a psychiatric interview. The psychological tests consisted of the Early Childhood Familiar Figures Test (reflectivity-impulsivity), the Early Childhood Embedded Figures Test (field independence), and the Draw-A-Line Test (motor impulsivity). In addition, home visits were made and mothers participated in weekly group sessions each composed of three mothers of hyperactive children and three control group mothers. Group sessions were led by a psychiatric social worker, and problems in childrearing were discussed.
Findings: Hyperactivity in preschoolers is a heterogeneous phenomenon, and there is a different pattern of psychological and behavioral results for children the investigators labelled *situationally* hyperactive and for children whose hyperactivity was more pervasive. Methylphenidate (Ritalin) reduced hyperactivity at home, but it did not improve nursery behavior or psychological functioning. The presence of unwanted side effects made the drug less useful at this age than with older hyperactive children.
Duration: September 1971-completed.

34-JH-4 THERAPEUTIC GROUP PROJECT FOR DAY CARE CENTERS

Investigator(s): Phyllis Brusiloff, Project Director; and Peter B. Neubauer, M.D., Director, Child Development Center, Jewish Board of Guardians, 120 West 57th Street, New York, New York 10019.
Purpose: To provide mental health services to severely disturbed children in day care centers; and to develop a special teacher-therapist category.
Subjects: 20 girls and boys, ages 5 to 6, in five groups, who have severe emotional and mental difficulties that interfere seriously with their development and functioning.
Methods: The program will be based on clinical assessment and evaluation with testing at the beginning of the study, after 2 years, and after 3 years. The third year of the study will consist of dissemination of information.
Duration: June 1974-May 1977.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

Juvenile Delinquency

34-KD-1 JUVENILE JUSTICE PROJECT

Investigator(s): Marguerite Warren, Ph.D., Director, Juvenile Justice Project, School of Criminal Justice, State University of New York at Albany, 1400 Washington Avenue, Albany, New York 12200.
Purpose: To study the intake and assignment process in New York's Division for Youth; and to devise more accurate information baselines at the intake level, in order to make possible differential assignment of adolescents to various programs designed to meet individual needs.
Subjects: 100 males and females, ages 12 to 19, who come to the Division for Youth intake level and have some action taken on their cases.
Methods: The sample represents roughly 97 percent of all adolescents coming to the Division for Youth during the period of research. Division for Youth record data were collected on each youth. In addition, 1-hour taped interviews were conducted with each subject by clinically trained advanced graduate students. The data will be cluster analyzed.
Duration: September 1973-May 1975.
Cooperating group(s): National Science Foundation.

Corrections

34-KR-1 COMMUNITY RESIDENTIAL CARE PROJECT

Investigator(s): Laurence J. Max, M.A., Social Research Analyst; and Diane Ball, B.A., Social Research Analyst, Social Services Evaluation and Analysis Division, Michigan State Department of Social Services, 300 South Capitol Avenue, Lansing, Michigan 48913.

Purpose: To assess the effectiveness of community care of juvenile delinquents in small group homes as an alternative to institutionalization.
Subjects: Boys and girls, ages 12 to 17, committed as wards of the State of Michigan on a delinquency petition and placed in a community residential care home.
Methods: The evaluation is comprised of four tasks: (1) project monitoring on a home-by-home basis by using a monthly data gathering form, (2) a longitudinal follow-up of community care subjects 3 months after their release compared to a matched sample of institutionalized releases, (3) a cost-benefit analysis, and (4) an administrative review. The administrative review includes interview and surveys to assess house parent selection, training sessions, and administrative organization.
Findings: Present data indicate that the project has been successful in meeting established goals and objectives. These include a high level of participation in skill programs, a low rate of truancies, a limited number of police contacts and/or arrests, and a satisfactory release status at completion of the program.
Duration: July 1971-June 1975.
Cooperating group(s): Law Enforcement Assistance Administration; Michigan Office of Criminal Justice Programs.
Publications: Quarterly and annual reports are available from Social Services Evaluation and Analysis Division, Michigan State Department of Social Services.

34-KR-2 THE LABELLING PROCESS IN A RESIDENTIAL SCHOOL FOR DELINQUENT BOYS

Investigator(s): J. A. Walter, B.A., Research Fellow, MRC Medical Sociology Research Unit, Center for Social Studies, Westburn Road, Aberdeen, AB9 2ZE, Scotland.
Purpose: To examine the way in which boys committed to one particular juvenile correctional institution are categorized and processed by the staff, the way the boys experience this process, and the relation of this labelling process to the treatment philosophy of the institution.
Subjects: Approximately 100 boys, ages 13 to 15, committed to a List D school (residential facilities for delinquent children under 16) in Scotland.
Methods: Participant observation from a symbolic interactionist perspective was the primary method employed. This involved the use of focused interviews, observation of meetings, boys' self-written diaries, informal conversations, and the analysis of case files.
Duration: 1970-1974.
Cooperating group(s): Social Science Research Council, United Kingdom.

34-KR-3 A STATISTICAL INQUIRY INTO LENGTH OF STAY AND THE REVOLVING DOOR: THE CASE FOR A MODIFIED FIXED SENTENCE FOR THE JUVENILE OFFENDER

Investigator(s): Gerald R. Wheeler, Ph.D., Chief; and D. Keith Nichols, Research Coordinator, Division of Research, Planning, and Development, Ohio Youth Commission, 2234 South Hamilton Road, Columbus, Ohio 43227.
Purpose: To analyze institutional and population factors related to length of stay in state operated juvenile correctional institutions, including measuring the effect of the mode of release

and use of diagnostic classification systems on stay; to present and apply a statistical model for measuring the *revolving door effect,* concentrating on factors related to the offender and institutional stay; and to discuss the social policy implications of these findings on the indeterminate sentence.

Subjects: 487 children in nine Ohio state juvenile correctional institutions.

Methods: Parametric and nonparametric statistics were employed to determine the effects of offender and institutional factors on residents' length of stay.

Findings: No significant relationship was found between committing offense and average institutional stay. Younger offenders and females in general were found invariably related to a longer stay. There was a statistically significant difference in the average length of stay between institutions; however, there was no significant difference in the *release pattern* of institutions. Eight of the nine institutions exhibited a *revolving door effect.* The major social policy implications are to adopt a modified fixed sentence for the juvenile offender and to remove the status offender from the preview of the juvenile correctional system.

Duration: January 1974-January 1975.

Cooperating group(s): Law Enforcement Assistance Act Grants.

Publications: This study, published as a monograph, Research Series No. One, is available from Division of Research, Planning, and Development, Ohio Youth Commission.

34-KS-1 AN EVALUATION OF TREATMENT STRATEGIES AT ILLINOIS YOUTH CENTER, GENEVA

Investigator(s): Theodore N. Ferdinand, Ph.D., Professor, Department of Sociology, Northern Illinois University, De Kalb, Illinois 60115.

Purpose: To assess the relationships among girls' personalities, staff treatment styles, treatment techniques, and girls' parole adjustment.

Subjects: 225 girls who were once at the Illinois Youth Center at Geneva and have been on parole for at least 6 months.

Methods: Eight questionnaires are being administered to inmates, staff, and family and youth counselors over a 45-month period. A "Q" factor analysis will be used to construct typologies of girls and staff. Path analysis and analysis of variance will be used to identify the interrelationships among girls' personalities, parole adjustments, staff treatment, styles, and treatment techniques. This is the first evaluation of treatment strategies of an institution serving girls.

Findings: About 62 percent of the girls released from the Illinois Youth Center remains on parole without further violations sufficient to revoke parole (after being on parole for at least 6 months).

Duration: April 1972-December 1975.

Cooperating group(s): Illinois Law Enforcement Commission; Illinois Department of Corrections.

34-KS-2 INTENSIVE REALITY BASED COUNSELING FOR DELINQUENT YOUTH WITH MULTIPLE NEEDS

Investigator(s): John Mullins, B.A., Project Supervisor, Division of Youth Services; and William M. Michaels, M.A., Research and Evaluation Consultant, Juvenile Welfare Board, 3455 First Avenue South, St. Petersburg, Florida 33711.

Purpose: To determine the relative effectiveness of an intensive reality based group counseling experience for delinquent youth supplemented by extensive collateral support, including group counseling of parents, as compared with routine Florida state services to delinquent youth.
Subjects: Experimental group: 32 delinquent boys and girls, primarily ages 13 to 16, receiving extensive supportive services from at least two agencies. Control group: 64 youths receiving routine Florida Division of Youth Services treatment, matched on 14 factors with the experimental group.
Methods: The project thesis is that delinquent youths needing substantial services from more than one agency actually receive less service because of coordination problems than youth whose needs are met primarily by one agency. This study deals with the coordination problem by having lower caseloads (1:8) and providing greater collateral support. Project effectiveness will be determined by comparing experimental and control groups. Indicators of treatment effectiveness include percent of reduction indicated in a specially designed behavioral index, employment data, truancy, recidivism, grade average, and average length of supervision.
Duration: October 1974-September 1975.
Cooperating group(s): Behavioral Consultation Service, Juvenile Detention Center, and Child and Family Comprehensive Mental Health Center, Pinellas County, Florida.

THE CHILD IN THE FAMILY

Family Relations

34-LA-1 THE FAMILY PROBLEM DEFINITION PROCESS

Investigator(s): Joan Aldous, Ph.D., Professor, Family Study Center, University of Minnesota, Minneapolis, Minnesota 55455. Address correspondence to: Department of Child and Family Development, University of Georgia, Athens, Georgia 30601.
Purpose: To discover how families define situations which they do or do not experience as problematic; and to identify the structural and interactional variables associated with the process.
Subjects: 48 triads composed of a father, mother, and their 9th grade child, half from the upper middle class and half from the working class. The adolescents are equally divided by sex, and half of the mothers are employed outside the home.
Methods: This study consists of observations of triads in a laboratory setting. Families were presented with situations either described on a tape recording or given in visual form. Examples include savings withdrawal records and a new boss for father. These situations are varied in their seriousness, temporal duration, intrafamilial or extrafamilial source of the problem, and immediacy of the problem. Family interaction is coded and the definition processes are analyzed. Each family member also completes a questionnaire to obtain face sheet data and parent-child and marital relations perceptions.
Duration: September 1971-June 1975.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-LA-2 CROSS-SECTIONAL STUDIES OF CHANGES IN VERBAL CHILD-MOTHER INTERACTIONS

Investigator(s): Ernst L. Moerk, Ph.D., Professor, Department of Psychology, California State University, Fresno, California 93740.
Purpose: To ascertain the influence of the language level of the child upon the forms of interactions between children and their mothers; and to explore changes in the determinants of verbal behavior, specific forms, and language skills acquired.
Subjects: 20 mother-child dyads from middle class homes, including 10 boys and 10 girls, ages 2 to 5.
Methods: Free play interactions between mothers and their children were tape recorded. Nonverbal behavior and the behavior setting were described by an observer. The frequency of types of utterances, classified according to predominantly functional criteria, together with the contingencies between the utterances of both partners were analyzed in relation to the language level of the child. Correlations and regression equations served to demonstrate the trends.
Findings: Three types of trends are differentiated: increasing, decreasing, and unchanging frequencies. A cluster of *primitive* instructional and learning interactions decreases sharply with increasing skills. Complex methods increase.

Duration: 1970-1975.
Publications: Moerk, E. L. Changes in verbal child-mother interactions with increasing language skills of the child. *Journal of Psycholinguistic Research,* 1974, 3(2), 101-116.

34-LA-3 TWIN STUDY OF INFANT-MOTHER INTERACTIONS

Investigator(s): A. J. Costello, M.A., Clinical Scientific Officer; and P. J. Leach, Ph.D., Clinical Scientific Officer, Unit on Environmental Factors in Physical and Mental Illness, Medical Research Council, 20 Hanway Place, London W1P 0A3, England.
Purpose: To measure the infant's contribution to control of maternal behavior.
Subjects: Over 50 same sex twins and 35 mixed sex pairs, recruited antenatally and followed to age 4.
Methods: This is a longitudinal study in which within pair comparison and cross-sectional samples of singleton controls are used. Data are obtained from interviews, observation, developmental testing, and electronic recording of behavior.
Duration: June 1969-June 1979.

34-LA-4 STUDY OF FAMILY STYLE AND INTERACTION WITH EXTERNAL INSTITUTIONS

Investigator(s): Pearl L. Rosser, M.D., Director, Child Development Center; and Melvin E. Jenkins, M.D., Professor, Department of Pediatrics, College of Medicine, Howard University, Box 101, Washington, D. C. 20001.
Purpose: To examine and evaluate the variables that determine utilization of agency service by families of different cultural and economic levels; and to explore these variables from both the family and the agency viewpoints so that they may serve as measures for improving the use of community facilities by children and their families.
Subjects: 123 families, 80 percent Black, chosen by random and discretionary techniques from families who sought assistance from the Child Development Center of Howard University from 1965 through 1973. The children, ages 2 to 22, predominantly male (75 percent), were diagnosed as having specific developmental problems (learning disabilities, mental retardation, emotional disturbance, speech defects, and/or multiples of same).
Methods: The factors that influence the family's use of the agency and the agency's delivery of services will be examined by personal interviews with sample families and also with the agencies to which they have been referred for treatment. Families' lifestyles will be elicited to bring out the coping and socialization behavior patterns of the key family figure. Factors included are economic, demographic, geographic, psychological, cultural, and attitudinal. Because of the special characteristics of Washington, D. C., Howard University, and the Child Development Center, this is a unique in-depth study of Black family lifestyle across socioeconomic characteristics and professional expertise. Two different questionnaires are being developed: one to tap the clients' interaction with the agency, and the other to obtain information from the agency representatives covering their operational characteristics. Social history data of the families collected during the diagnostic period will be updated at the actual interview. Data will be analyzed using chi-squares. Based on the analysis, a model of agency operations will be developed and later tested within the clinics of the Department of Pediatrics.
Duration: July 1974-June 1975.
Cooperating group(s): Office of Child Development, U. S. Department of Health, Education, and Welfare.
Publications: A final report will be published.

34-LC-1 ONE-PARENT FOLLOW-UP STUDY

Investigator(s): Hilary Robinson, M.A., Research Officer, National Children's Bureau, Adam House, 1 Fitzroy Square, London, S1, England.
Purpose: To describe the circumstances of families with only one parent; and to describe and suggest ways of alleviating the problems facing parents on their own.
Subjects: 75 fathers and 93 mothers, ages 30 to 60+, who are the parents of some of the children who were involved in England's National Child Development Study, 1969.
Methods: A questionnaire was piloted, and a sample list of 100 fathers and 100 mothers was drawn up. Detailed interviews, which yielded highly qualitative and anecdotal information, were conducted on a national basis.
Findings: Parents on their own face a combination of problems of low income, poor housing, etc. They are given little support by society and its agencies.
Duration: October 1972-May 1974.
Cooperating group(s): Bottle Trust, England.

34-LC-2 RUNAWAYS AND STREET CHILDREN IN MASSACHUSETTS

Investigator(s): Margaret B. Saltonstall, A.B., Community Organization Specialist, Massachusetts Committee on Children and Youth, 9 Newbury Street, Boston, Massachusetts 02116.
Purpose: To study the runaway population in Massachusetts with specific regard to its age distribution, socioeconomic characteristics, and the incidence of physical and emotional illness; and to identify the need for tangible help, including shelter care.
Subjects: 302 girls and 126 boys, ages 6 to 17.
Methods: During a 1-month period (July 1972), Massachusetts city and town officials, law enforcement personnel, social agencies, hotlines, self-help agencies, youth resource bureaus, and other concerned groups provided information on a uniform data form on all known runaways.
Findings: Girls comprised just over 70 percent of the population studied. An extremely high number of runaways left circumstances that had become overwhelming and intolerable for them. For these children, running away seems to be a healthy reaction to an impossible situation. The majority of the runaways came from family situations with a high incidence of parental discord, separation, divorce, and death. In addition to family disruption, a high incidence of beatings, forcible restraint, sexual abuse, and an almost warlike atmosphere was reported. Early intervention and interception are urged to help the runaway and street child population which is vulnerable to destructive situations.
Duration: March 1972-completed.
Cooperating group(s): Bridge Over Troubled Waters; Project Place; The Sanctuary; Street Youth Program, Massachusetts General Hospital.
Publications: *Runaways and street children in Massachusetts,* by the investigator, is available from the Massachusetts Committee on Children and Youth for $1.75 per copy.

34-LC-3 PROBLEMS OF FATHERLESS FAMILIES

Investigator(s): Monica B. Holmes, Ph.D., Senior Research Associate, Center for Community Research Applications, Inc., 1560 Broadway, Suite 1214, New York, New York 10036.

Purpose: To determine the effect of loss of father upon the family.
Subjects: 309 mothers and 407 children, stratified according to five independent variables: ethnicity, socioeconomic status (middle, lower), age of children (ages 5 to 8, 9 to 12, and 13 to 15), father status (father dead, separated/divorced, both parents present), and sex of child.
Methods: Data were collected in personal interviews in which three instruments were used: a mother's questionnaire, children's questionnaire, and children's responses to a set of projective materials. The materials consisted of a set of eight pictures of family situations with the standard instructions for the Thematic Apperception Test. Chi-square analyses were performed on an item-by-item basis by sex of child, child's age, ethnicity, and social class for each of the three study groups (intact, separated/divorced, father dead). Comparisons were also made across the three study groups in terms of major demographic variables in order to insure homogeneity in terms of sampling. The demographic comparisons were made on age, ethnic status, religion, education, number of children, and economic status.
Findings: The impact of fatherlessness on any particular child is dependent on the reasons underlying the absence, family structure and style, the mother's reaction, and child variables. A higher proportion of women in separated/divorced (S/D) than in intact or father-dead families comes from homes which were broken by death or S/D in their childhood. The birth of the first child, which in most cases occurs after 2 years of marriage, places a severe strain on the marriage of couples who later go through S/D. There are few differences between the formerly married (S/D and widows) and the still married women in terms of daily activities, views on marriage and family, and sources of satisfaction. Social class, and to a lesser extent, race, are important in understanding differences between these women, and are more important in determining the women's lifestyles than husband status. Based on mothers' reports, the impact of father absence on children seems relatively minimal. Large numbers of children are reported to be minimally upset or actually relieved following a S/D. Such reports are made more frequently for Black than for White children. Black children are also reported to be less visibly upset than White children regarding the death of their father. Children in father absent families are less apt to characterize human relationships as caring and happy, are more likely to perceive relationships as aggressive and threatening, and are more likely to have a negative view of men, women, themselves, and the world in which they live than are children in father present families. The impact of the death of the father seems to be greater on children 5 to 8 years old than on other children, particularly among girls, and greater on White than on Black children.
Duration: September 1971-December 1973.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: The final report of the study is available from National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare: Holmes, M. and Holmes, D. Fatherless families: The mothers and the children. December 1973.

34-LC-4 AN EMPIRICAL INVESTIGATION OF THE IMPACT OF PARENTAL IMPRISONMENT ON THE SOCIALIZATION OF BLACK CHILDREN

Investigator(s): James E. Savage, Jr., Ph.D., Assistant Professor; Albert Roberts, Ph.D., Assistant Professor; and Alvis V. Adair, Ph.D., Associate Professor, Parental Imprisonment and Child Socialization Project, Psychology Department, Howard University, Washington, D. C. 20059.

Purpose: To study the effects of parental separation on the socialization of Black children.
Subjects: 400 children divided equally according to sex, grade, and mother or father absence: 100 children with incarcerated fathers, 100 children with incarcerated mothers, 100 children with nonincarcerated fathers, and 100 children with nonincarcerated mothers.
Methods: A questionnaire is administered to each child.
Duration: July 1973-June 1976.
Cooperating group(s): Children's Bureau, Office of Child Development, U. S. Department of Health, Education, and Welfare; Lorton Complex, Lorton, Virginia; Maryland House of Corrections; Alderson Women's Prison; federal day care centers.

34-LE-1 EFFECTS OF OCCUPATIONAL SHIFT ON FAMILY LIFESTYLE

Investigator(s): Aline M. Garrett, Ph.D., Assistant Professor, Department of Psychology, University of Southwestern Louisiana, Lafayette, Louisiana 70501.
Purpose: To investigate the impact on family lifestyles of a new industry located in a small Southern community which has unemployment and poverty problems; and to explore (1) what happens when the mother (the primary socializing agent) works in this industry which has different work requirements and better pay, and (2) the impact on the working mother, her husband, and children.
Subjects: 450 married women, ages 18 to 65. Experimental Group I: 100 employees who have worked for the new industry 1 year or less. Experimental Group II: 100 employees who have worked for the new industry for 3 years. Control Group I: 100 employees who work in other factories (canneries) or who have semiskilled jobs which typify the community. Control Group II: 50 workers who have been employed in the domestic/field area for at least 3 years. Control Group III: 100 employees who have worked in professions (e.g., teaching, beauty culture, etc.) or self-owned businesses for at least 3 years.
Methods: All subjects receive the initial interview. The interview questionnaire is concerned with background data; evaluation of the new work situation and its effect on lifestyle (e.g., problems, pressures, motivation, reinforcements); and effects of employment on child care, child development and personality, leisure time for family, social life (i.e., connections with other employees' families versus own extended groups), family planning (general use of added income), and on employee's relationship with other members of the family. A second interview is conducted with employees who have elementary school children. The children's achievement test scores and personality measures (locus of control and self-concept scores) are obtained. Objective, factual, and background interview data are handled by frequency counts, significance tests, and chi-squares. Group data will be analyzed with analysis of variance.
Duration: July 1974-June 1975.
Cooperating group (s): Office of Child Development, U. S. Department of Health, Education, and Welfare.

34-LH-1 THE CONTROVERSY OVER THE SEALED RECORDS IN ADOPTIONS

Investigator(s): Arthur Sorosky, M.D., Clinical Assistant Professor, Department of Psychiatry, Child Division, Center for Health Sciences, University of California at Los

Angeles, 760 Westwood Plaza, Los Angeles, California 90024; Annette Baran, M.S.W., Director, Adolescent Treatment Program, University of California at Los Angeles, Drug Triage, 711 North Sweetzer, Los Angeles, California 90049; and Reuben Pannor, M.S.W., Social Work Researcher, Adoption Research Project, P. O. Box 49809, Los Angeles, California 90024.
Purpose: To study (1) birth parents who have given up their children for adoption (years after the relinquishment), (2) the attitudes of adoptees towards the possibility of sealed records being opened, (3) the attitudes of adoptive parents about the possibility of their adopted children searching for their natural parents, and (4) the effects of reunions upon adoptees and natural parents.
Subjects: Adoptive parents, adoptees, and birth parents who have given up children for adoption; primarily adults 18 years and over. The investigators are attempting to obtain as large and diversified a nation-wide sampling as possible.
Methods: Questionnaires are administered to adoptive parents directly. Indepth interviews and questionnaires are administered to birth parents and adoptees who volunteer to be a part of the research project.
Findings: The secrecy surrounding adoptions has been more of a hindrance than a help. Birth parents have more feelings about having relinquished children for adoption than has been previously recognized. Many adoptees have identity problems resulting from their adoptive status for which they need more help than has been previously acknowledged.
Duration: August 1970-December 1974.

Childrearing

34-MA-1 CHARACTERISTICS OF FATHERS

Investigator(s): Sharon Price-Bonham, Ph.D., Assistant Professor, Departments of Child and Family Development and Sociology, University of Georgia, Athens, Georgia 30601.
Purpose: To investigate fathers' attitudes related to several areas of their role as father.
Subjects: 146 fathers, including 50 Black fathers, selected by demographic characteristics representative of a southeastern city. Fathers were selected only if two of their children were at least 3 years old.
Methods: The subjects were interviewed by trained interviewers. Both closed- and open-ended questions were used to ascertain fathers' attitudes towards discipline, aspirations for children, and sex roles.
Duration: April 1974-December 1974.

34-MA-2 ALTERNATIVE APPROACHES TO CHILDREARING AND THEIR EFFECTS ON THE MOTHER-INFANT RELATIONSHIP

Investigator(s): Ellen Hock, Ph.D., Assistant Professor, Division of Family and Child Development, School of Home Economics, Ohio State University, 315 Campbell Hall, 1787 Neil Avenue, Columbus, Ohio 43210.

Purpose: To study longitudinally the development of the mother-infant relationship; especially, to investigate how different approaches to infant care (such as those involving several caretakers, one caretaker, or the mother herself) influence the infant's development, the mother's happiness, and the mother-infant relationship.

Subjects: 234 male and female infants of homerearing and non-homerearing mothers. Mothers are both private and clinic patients from all socioeconomic levels, White and Black, married and unmarried, and have indicated a range of preferences for alternative child care arrangements.

Methods: At the time of the infant's birth, information was collected about the mother's perception of her role and her feelings about caring for her infant, family composition, and infant characteristics. This information will be related to mother-infant interaction when the child is 3 months of age and to the choice of infant care alternatives and the effects of this choice on mother-infant interaction when the child is 8 and 12 months old. Data collection for each mother-infant pair begins at the infant's birth and continues throughout the first year of life. Methods of data collection include a maternal postpartum interview, two home visits, and two visits of mother and infant to the development center. The postpartum interviews are aimed at gathering relevant demographic information as well as information about work plans, maternal role, perception of infant, and childrearing attitudes. Home visits entail observation of mother-infant interaction, a maternal role interview, assessment of maternal attitudes about childrearing, infant developmental testing, and assessment of the home environment. Center visits involve observation of mother-infant interaction to assess patterns of infant attachment to the mother and the quality of mothering, and infant developmental testing. A preliminary analysis of a sample of 60 non-homerearing mothers and 47 homerearing mothers was conducted. The data were scored on 22 global variable scales patterned after Howard Moss's scales which rate maternal personality characteristics and childrearing attitudes.

Findings: Of 1,506 mothers surveyed in the hospital on their child care plans since July 1973, 80.2 percent intended to rear their infants in the home, while 19.8 percent intended to return to work or to school and leave their infant in someone else's care for at least 20 hours a week. Other characteristics of the surveyed group were (1) 51.9 percent were male infants, (2) 43.6 percent of the mothers were giving birth to their first infant, (3) 29.3 percent were clinic patients of lower socioeconomic status than the remainder of the sample who were private patients, (4) 13.1 percent were unmarried mothers, and (5) the racial distribution corresponded to the racial mix in the Columbus metropolitan area at the time of the survey: 84.3 percent White and 14.6 percent Black. Preliminary analysis of interviews with 60 non-homerearing mothers and 47 homerearing mothers indicates that the two groups differed significantly ($p<.01$) on four of the variable scales. The non-homerearing mothers exhibited less apprehension over someone else caring for their infants and were less dependent on supportive relationships with their husbands, parents, and physicians. The non-homerearing mothers were more career oriented and tended to view a career as a gratifying or necessary experience; they made career decisions independently. There were no significant group differences between the non-homerearing and homerearing mothers on other scales that related to perception of infant, feeding plans, nurturant tendencies, or investment in the maternal role.

Duration: July 1973-June 1975.

Cooperating group(s): Department of Pediatrics, Ohio State University; Ohio Agricultural Research and Development Center; Office of Child Development, U. S. Department of Health, Education, and Welfare.

34-MB-1 MATERNAL CARE AND CHILD DEVELOPMENT OF INDIAN CHILDREN

Investigator(s): N. Kielmann, M.S., Research Assistant, Department of International Health, School of Hygiene and Public Health, Johns Hopkins University, 615 North Wolfe Street, Baltimore, Maryland 21206; and G. Grewal, B.A., Investigator, Rural Health Research Center, Narangwal, Ludhiana, India.
Purpose: To determine the effect of the quality of maternal care on the growth and development of rural preschool children.
Subjects: 100 preschool children (50 boys and 50 girls), ages 6 months to 3 years, who reside in 10 North India villages.
Methods: An assessment tool was developed to objectively measure the quality and content of mother care under three main categories: nutritional, protective, and stimulative. Twelve-hour observations of maternal and family activities in relation to the care of the selected children were conducted on the basis of a scoring system. For a subsample of 50 children, 36-hour observations were completed. The observation scores were related to each child's developmental quotient, past morbidity experience, and achieved psychomotor skills.
Findings: Preliminary results seem to indicate strong correlations between the level of mother care and the three dependent variables.
Duration: May 1972-June 1974.

34-MB-2 A CROSS-CULTURAL STUDY OF PARENTAL CHILD TRAINING VALUES

Investigator(s): Wallace E. Lambert, Ph.D., Professor; Nancy Frasure Smith, Ph.D., Research Associate; and Josiane F. Hamers, Ph.D., Research Associate, Department of Psychology, McGill University, P. O. Box 6070, Montreal, Quebec H3C 3G1, Canada.
Purpose: To investigate cultural and social class influences on parents' ways of rearing children; to examine similarities and differences between various immigrant groups and groups of parents who still reside in their home countries; and to interview teachers serving the various immigrant communities in order to examine possible sources of school/home conflict for immigrant children.
Subjects: 40 middle class and 40 lower class mothers and fathers in each home country sample. Half are parents of 6-year-old boys and half are parents of 6-year-old girls. Only lower class samples are being collected for immigrant groups. Groups under investigation include French from France, Dutch Belgians, French Belgians, English Canadians, Americans, Japanese, Greeks, Italians, Portuguese, Mexicans, and Puerto Ricans.
Methods: Information is gathered by analyzing parents' immediate responses to a taped version of a child's demands for attention, help, comfort, and privileges. Using analyses of variance, the influence of the child's sex, parent's sex, socioeconomic level, and ethnicity on parental responses will be analyzed separately for a number of domains. Domains include cases in which the child gets into a dispute with a guest or with a sibling, seeks comfort for a small injury, seeks help with a difficult puzzle, wants a friend to come in and play, or wants to cross a street by himself. In addition, a questionnaire concerning expectations and perceptions about boys' and girls' behavior is administered to each parent.
Findings: Preliminary analysis seems to indicate that social class has a particularly important effect.
Duration: September 1973-September 1975.
Cooperating group(s): Spencer Foundation.

34-MC-1 NATIONAL EVALUATION OF THE IMPACT OF THE OFFICE OF CHILD DEVELOPMENT PARENT-CHILD CENTERS ON PARENTS AND CHILDREN

Investigator(s): Monica B. Holmes, Ph.D., Senior Research Associate, Center for Community Research Applications, Inc., 1560 Broadway, Suite 1214, New York, New York 10036.

Purpose: To evaluate the impact of the Parent-Child Centers on parents in terms of parenting attitudes and behavior, self-concept, and knowledge and use of community resources; and to evaluate the impact of the centers on participants' children.

Subjects: 354 parents at seven Parent-Child Centers, including 67 new participants, 148 short-term participants (less than 6 months), and 139 long-term participants (over 6 months).

Methods: The evaluation focused on the national program of Parent-Child Centers (PCC) and on parents rather than on children. A repeated measurement design was implemented with each subject acting as his own control, rather than using a control group design. Staff at 14 centers administered to children the Pre-School Inventory and the Denver Developmental Screening Test. These data were compared with normative data for non-PCC children and with Home Start children. On the basis of the previous year's data collection at 32 centers, case studies were completed on seven PCC programs. Analyses were made between new family and short-term family data, new family and long-term family data, and short-term and long-term family data. In addition, short-term impact on new families was measured. Of the original 354 parents, 210 were reinterviewed. This subsample included 40 new participants, 86 short-term participants, and 84 long-term participants, and was broken into three groups according to level of involvement: high, medium, and low. Within-group comparisons were made between new families at the onset of the study and new families at the second interview; short-term families at the onset of the study and short-term families at the second interview; and long-term families at the onset of the study and long-term families at the second interview. Across group comparisons consisted of new family data vs. short-term family data; new family data vs. long-term family data; and short-term family data vs. long-term family data.

Findings: PCC did not have a major effect on the majority of the parents served. PCC have had a profound impact on the lives of some parents, but when the entire sample is measured, differences tend to be small and not statistically significant. Denver Developmental Screening Test findings show a lack of consistent differences between PCC, the norms, or Home Start data, probably because this test is not sensitive to differences that are within the normal range. Comparisons on the Pre-School Inventory across length of membership show differences that favor PCC children. PCC do have some impact on the school readiness of children, in terms of knowledge of the kinds of concepts expected of school age children.

Duration: Fall 1972-completed.

Cooperating group(s): Office of Child Development, U. S. Department of Health, Education, and Welfare.

Publications: Reports are available from the Office of Child Development: (1) Holmes, M.; Holmes, D.; Greenspan, D; and Tapper, D. The impact of the Head Start Parent-Child Centers on children, December 1973. (2) Holmes, M.; Holmes, D.; and Greenspan, D. The impact of Head Start Parent-Child Center Program on parents, August 1973. (3) Holmes, M.; Holmes, D.; and Greenspan, D. Case studies of the seven Parent-Child Centers included in the impact study, November 1972.

SOCIOECONOMIC AND CULTURAL FACTORS

34-NA-1 THE ENERGY CRUNCH AND ITS EFFECT ON PEOPLE

Investigator(s): Agnes M. Hooley, Ph.D., Professor, Department of Physical Education and Recreation, Bowling Green State University, Bowling Green, Ohio 43403.
Purpose: To investigate how the energy crisis has affected average persons and how they have adapted to the energy crisis; to determine whether the average person feels that a change in value systems will result from the energy crisis; and to ascertain whether children think through their own values or merely reflect the value systems of their parents or parent substitutes.
Subjects: 168 persons, ages 8 to over 65, broken into seven groups of 24 persons. Each category included persons of a similar age range and probably a similar life role.
Methods: Seven teams, each composed of two trained field workers, interviewed the subjects in February 1974. The survey form used included 13 items which were intended to (1) describe the subject and his or her role in life, (2) evoke opinions concerning the energy crisis as a national problem, (3) discover value oriented goals or behavior of the subjects (especially those that might have been brought into focus by the energy crisis), and (4) discover in what ways the energy crisis had affected the lifestyles of the subjects. The data were analyzed by the investigator according to items and to subject categories. The research report includes summaries of responses by items and general profiles of typical category subjects.
Findings: While the energy crisis has been upsetting to most and has caused a good deal of anxiety, concern, frustration, annoyance, anger, and disbelief, most people have (1) taken it in stride, absorbing the inconveniences amazingly well; (2) managed to live with it, by making various compromises in their lifestyles, and by concocting ways to procure gasoline, heat, and light at minimal levels and often more; (3) decided that car pools, mass transportation, and walking are acceptable modes of transportation, but far from desirable, and to be avoided if possible; (4) come to believe that the energy crisis is a terminal one and will not last as long as most environmentalists say; (5) decided that while it is somewhat serious, it is also a ploy by business for profit, or by government to distract them from other problems; (6) reached the conclusion that, like it or not, more time will be spent in the home and in areas near it; (7) decided that the energy crisis will be solved by technology, and for some, by a change in value-oriented behavior. Others felt that there may be a request, but not a requirement to change the value system, and that, for the average person, this will mean little change over the long pull.
Duration: January 1974-May 1974.
Cooperating group(s): The Anderson Center for Personal Development.

34-NB-1 A CROSS-CULTURAL COMPARISON OF CAREER DEVELOPMENT CONCEPTS

Investigator(s): Darryl Laramore, Ph.D., Supervisor, Vocational Guidance and Career Education, Montgomery County Public Schools, 850 North Washington Street, Rockville, Maryland 20850; and Jack M. Thompson, Ed.D., Director, Curricular Services, Sonoma County Office of Education, 2555 Mendocino Avenue, Room 111E, Santa Rosa, California 95401.
Purpose: To compare career development concepts of students in the United States with those of students in other cultures.

Subjects: Secondary school students from the United States, Poland, and Switzerland.
Methods: All subjects completed a career development instrument. This recently developed instrument is based upon the California Career Development Concepts, a California model for career guidance curriculum. To date this instrument has demonstrated both reliability and construct validity. Comparisons between three groups of subjects will be made on the basis of the similarities of responses to career development concepts and sex differences typical in the United States.
Duration: September 1973-October 1974.
Cooperating group(s): Professor F. Gendre, University of Lausanne, Lausanne, Switzerland; Dr. Krzysztof Polakowski, Warsaw, Poland.
Publications: Career development: A California model for career guidance curriculum. California Personnel and Guidance Monograph No. 5.

34-NC-1 ADOLESCENT POLITICAL INVOLVEMENT IN FOUR WESTERN DEMOCRACIES

Investigator(s): Roberta S. Siegel, Ph.D., Professor, Douglass College, Rutgers University, New Brunswick, New Jersey 08903.
Purpose: To study modes of political involvement among high school students in the United States, Canada, West Germany, and Austria by analyzing their orientations toward citizenship, preferred types of political participation, and interest in politics.
Subjects: 1,000 high school seniors each in Canada, Austria, West Germany, and the United States. In the United States, the sample is drawn from a stratified sample of urban and rural youth in Pennsylvania.
Methods: Three survey instruments are being used: an extensive oral interview, a short questionnaire using standard sociological/psychological scales, and a written questionnaire on political involvement. Items are cross-referenced to examine utility of one format over the other.
Duration: January 1973-March 1976.
Cooperating group(s): National Science Foundation; Temple University Survey Research Center.

34-ND-1 RURAL MIGRANT HEALTH AIDE DEVELOPMENT PROJECT

Investigator(s): Abdon Ibarra, Jr., Project Director; Jesse Banda, Researcher; and Rogelio Palacios, Researcher, Rural Migrant Project, Texas Migrant Council, P. O. Box 917, 2220 Sta. Ursula, Laredo, Texas 78040.
Purpose: To develop a training package for migrant health aides.
Subjects: 1,000 migrant families in four rural counties in Texas.
Methods: Health providers are surveyed by personal interview to determine their thoughts on migrant health consumers' needs. Migrant health consumers are also surveyed in person to assess their health needs. A testable training package for health aides will then be developed.
Findings: There is a lack of health resources, a lack of concern by some health providers, and a lack of planning for health services.
Duration: June 1974-June 1977.
Cooperating group(s): School of Public Health, University of Texas, Houston, Texas; Office of Child Development, U. S. Department of Health, Education, and Welfare.

Publications: Annual reports of activities and findings are planned; a training manual will be published in 1977.

34-NE-1 VARIATION IN THE PROPORTION OF INFANT DEATHS DUE TO ILL-DEFINED CAUSES, BY COLOR AND DEGREE OF URBANIZATION

Investigator(s): Marion Johnson Chabot, M.D., M.P.H., Research Specialist; and Joseph Garfinkel, M.P.H., Biostatistician, Department of Maternal and Child Health, School of Public Health, University of California at Berkeley, Berkeley, California 94720; and Margaret W. Pratt, A.B., Director, Maternal and Child Health Studies Project, Minnesota Systems Research, Inc., Washington, D. C.

Purpose: To determine whether variations in the proportion of deaths ascribed to ill defined causes are a reflection of variations in age at death, color, and degree of urbanization.

Methods: Tabulations of recorded infant deaths in the United States from 1962 to 1967 were provided by the National Center for Health Statistics with the cooperation of Minnesota Systems Research, Inc.

Findings: Infant deaths caused by ill defined conditions are nearly three times more common in rural than in urban areas. Infant deaths caused by ill defined conditions are two to five times more common in the nonwhite than in the white population. By far the largest number of infant deaths from ill defined conditions occur in the postneonatal period.

Duration: December 1973-October 1974.

34-NE-2 VARIATIONS IN AGE OF DEATH OF INFANTS BY DEGREE OF URBANIZATION AND COLOR

Investigator(s): Marion Johnson Chabot, M.D., M.P.H., Research Specialist; and Joseph Garfinkel, M.P.H., Biostatistician, Department of Maternal and Child Health, School of Public Health, University of California at Berkeley, Berkeley, California 94720; and Margaret W. Pratt, A.B., Director, Maternal and Child Health Studies Project, Minnesota Systems Research, Inc., Washington, D. C.

Purpose: To determine to what degree variations in age at infant death are related to degree of urbanization and color.

Methods: Tabulations of recorded infant and fetal deaths in the United States from 1962 to 1967 were provided by the National Center for Health Statistics with the cooperation of the Maternal and Child Health Studies Project, Minnesota Systems Research, Inc.

Findings: After 1 day of life, infant mortality rates increase progressively as the degree of urbanization decreases. The differences between urban and rural death rates are greatest in the posthebdomadal period. In all age groups and in all levels of urbanization, the nonwhite infant is at a marked disadvantage relative to the white infant. For nonwhite infants in rural areas the disadvantage increases with age. If the white infant mortality rate had prevailed among the nonwhite population over the 6-year period (1962-67), an estimated 11,597 nonwhite infants annually would have survived their first year of life. Fetal death rates increase progressively as the degree of urbanization decreases, complementing a direct relationship between under 1-day mortality and urbanization resulting in a level trend for perinatal mortality.

Duration: September 1973-May 1974.

34-NE-3 RESIDENTIAL MOBILITY PERSPECTIVES OF YOUNG PEOPLE

Investigator(s): Charles B. Nam, Ph.D., Director; and Morgan I. Lyons, Ph.D., Assistant Professor, Population and Manpower Research Center, Institute for Social Research, Florida State University, Tallahassee, Florida 32306.
Purpose: To examine residential mobility expectations of youth; and to relate these expectations to past mobility patterns, educational and occupational career plans, socioeconomic backgrounds, attitude scales, and ties to present areas of residence.
Subjects: 1,200 males and 1,200 females from classrooms in Leon County, Florida: 600 each in sixth, ninth, eleventh-twelfth, and college levels. One fourth of the sample is Black.
Methods: Questionnaires are administered in classrooms by the researchers. The attitude scales tap attitudes towards residential mobility as well as alienation in the college sample. Cross-tabular and regression analyses will be performed.
Duration: September 1973-August 1975.
Cooperating group(s): National Science Foundation.

34-NG-1 ENGLISH AND FRENCH CANADIAN CHILDREN'S VIEWS OF PARENTS

Investigator(s): Nancy Frasure Smith, Ph.D., Research Associate, Department of Psychology, McGill University, P. O. Box 6070, Montreal, Quebec H3C 3GI, Canada; and Mary Kirby Grenier, B.A., Student, Department of Psychology, Carelton College, Northfield, Minnesota 55057.
Purpose: To explore English and French Canadian lower and middle class 6- and 9-year-old boys' and girls' perceptions of parents.
Subjects: 160 first and third graders from the Montreal area representing four social class linguistic groups: lower class and middle class English Canadians, and lower and middle class French Canadians. The sample consists of 10 boys and 10 girls from each grade in each social class linguistic group.
Methods: Children were interviewed concerning their perceptions by means of a series of cartoon questions based on work by Kagan and Hemkin (1961). Each drawing showed a child engaged in some activity with an adult figure, although no adult was fully illustrated. The situation in the cartoon was described and the child was asked to say whether he thought the adult involved was the mother or the father. Incidents were included to tap various subtypes of nurturance, power, and discipline. Analyses of variance were performed on each child's mother's and father's scores on the various scales.
Findings: When parental differences in overall nurturance, power, and discipline were compared, lower class children were found to perceive a greater dichotomization of parental roles than middle class children. However, when two subtypes of nurturance (supportive and companionship) were contrasted, and when three subtypes of discipline (physical, affective, and deprivational) were examined, important differences emerged related to the children's ethnicity and sex, as well as social class. The importance of further exploration of subdivided discipline and nurturance scales is emphasized.
Duration: September 1972-May 1974.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Defense Research Board, Canada; Canada Council.

34-NG-2 A FORMULATIVE AND EMPIRICAL STUDY OF BLACK FAMILIES

Investigator(s): Wade W. Nobles, Ph.D., Research Scientist; and Yolanda Jenkins, M.A., Research Coordinator, Westside Community Mental Health Center, Inc., 2201 Sutter Street, San Francisco, California 94115.
Purpose: To reinvestigate and examine the Black family system in order to offer a more accurate conceptual description of Black family lifestyles than has been provided by research employing *victimized* and *pathological* analytical frameworks.
Subjects: 60 Black families randomly chosen primarily from the predominantly Black communities in metropolitan San Francisco.
Methods: The method for data collection consists of total family interviews in which every member of the household will be interviewed. Family is defined as "all persons living within a household." Also, family interactions and discussions will be videotaped. The unique aspect of this study is the assumption that Black families are best understood as African-based families. Content, factorial, and cluster analyses will be used, as well as descriptive analysis.
Duration: July 1974-June 1975.
Cooperating group(s): Office of Child Development, U. S. Department of Health, Education, and Welfare.

34-NG-3 AN EXPERIMENT IN HUMAN RELATIONSHIPS

Investigator(s): Alice Van Krevelen, Ph.D., Professor, Department of Psychology, Berea College, Berea, Kentucky 40403.
Purpose: To promote international understanding through a school-to-school exchange program for elementary school children.
Subjects: 500 children in a Berea, Kentucky community elementary school, grades 1 to 6, including: six Mexican-American children (three boys and three girls), age 11; four American children (two boys and two girls), age 11; seven American host families (adults and children); six American child hosts, age 11; an adult teacher; and an adult leader.
Methods: The program consisted of an exchange of students between the Berea school and a school in Guatemala City. To assess the impact of the visiting Guatemalan children on the American children, questionnaire data were collected from all students in the Berea school. Open-ended personal interviews were conducted with all visiting children, host children, and host families.
Findings: The hypotheses on the extent of impact and promotion of personal relationships were supported.
Duration: 1972-1978.
Cooperating group(s): International School-to-School Experience.
Publications: A limited supply of Part I (the exchange with Guatemala) is available from the investigator.

EDUCATIONAL FACTORS AND SERVICES

General Education

34-OA-1 EDUCATIONAL SEARCH STRATEGIES

Investigator(s): Åke Bjerstedt, Scientific Leader; Bernhard Bierschenk, Project Leader; Inger Larsson, Documentalist; and Inger Bierschenk, Method and Subject Expert, Department of Educational and Psychological Research, Malmö School of Education, Lärarhögskolan, Fack, S-200 45, Malmö 23, Sweden.

Purpose: To plot the processes of problem perception and problem definition related to the research conducted at the various educational research departments in Sweden; to study the search and dissemination of ideas through an analysis of citations and personal contacts; and to gain experience concerning the way in which a local system of information and documentation should be designed.

Subjects: A random sample of researchers at Swedish departments of educational research.

Methods: Initially an exchange of ideas and a creative group atmosphere was established, in order to find out what different people think about when the initial phase of research is being examined; e.g., processes of problem perception and problem definition. Following transcription of tape recorded discussions, an impressionistic content analysis was carried out, based on a careful reading of text material. On the basis of content indicators (Bierschenk 1973), a more specific category system was developed and provided the foundation for the design of an interview study. Interview questions were drawn up and rating scales were developed with a view to plotting what Swedish education department researchers experience as the most important aspects of the first phase of the research process (problem perception and definition). Interviews were composed of three components: (1) Process: problem perception, information search, hypothesis formulation; (2) Individual: motivation, strategies of action, individual actions; (3) Reference Systems: formal organizations, informal organizations, group identifications. The subjects were interviewed, and two kinds of data were produced: data in the form of a spoken text and data in the form of ratings. The data were analyzed by impressionistic content analysis and by a computer based technique. A second phase of the study focused on the types of information that researchers believe to have influenced the research process. A survey was begun of publications written by the researchers (who were included in the sample for the interview study), which were listed in the card index of the Library of Education and Psychology in Stockholm in March 1974. To meet the third objective of the investigation, a local information and documentation system is being constructed. The functions of the documentalist in these experimental activities are (1) to design and plan systematic information retrieval, dissemination, and advisory activities on information matters; (2) to design retrieval strategies for computer based literature; (3) to open information channels and the observation of development trends; (4) to mediate research findings from the department of liaison activities; and (5) to observe continuously information needs and utilization.

Duration: Fall 1972-continuing.

Publications: (1) A paper presented to the Standing Committee on Social Science Data: Workshop on Content Analysis in the Social Sciences, Pisa, Italy, 1974: Bierschenk, B. Computer-based interview data processing: Problems in the construction of coding rules and

program development. (2) Holsti, O. R. *Content analysis for the social sciences and humanities.* Reading: Addison-Wesley, 1969. (3) Stone, P. J. *The general inquirer: A computer approach to content analysis.* Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 1966. (4) Osgood, C. E. The representational model and relevant research methods. In I. de S. Pool, *Trends in content analysis.* Urbana, Illinois: University of Illinois Press, 1959. (5) Osgood, C. E.; Saporta, S.; and Nunually, J. C. Evaluative assertion analysis. *Litera,* 1956, 3, 47-102.

34-OA-2 QUALITATIVE EVALUATION OF TEACHER TRAINING, CLASS TEACHER LINES (KUL-K)

Investigator(s): Sixten Marklund, KUL-K Project Leader, Department of Educational and Psychological Research, Stockholm School of Education, Lärarhögskölan, Fack, S-100 26 Stockholm 34, Sweden.

Purpose: To develop a continuous qualitative evaluation of the teacher training provided by Swedish schools of education; to establish the extent to which the various teacher training institutions achieve the goals of the training syllabus; and, if possible, to define the factors in teacher training which impede or are conducive to the attainment of the goals of training.

Subjects: A generation of 3,400 teacher trainees admitted to all the Swedish schools of education during the academic year 1969-70; and 1,000 teacher trainers and principals who played an active part in teacher training.

Methods: Four different questionnaires were completed by the trainee population, and one was completed by the teacher trainers. Initially, trainees completed a questionnaire on their demographic and personal characteristics, as well as their anticipations concerning teacher training. After three terms, the trainees evaluated their study situation including topics such as training organization, basic courses, training goals, collaboration, influence, and preparations for the teaching practice term. In another questionnaire teacher trainees evaluated their teaching practice term; e.g., the resources of the school concerned, the content of teaching practice, contact with the school of education, assessment of teaching proficiency during the practice term, and congruence between training at the school of education and experience during the term. Finally, the trainees evaluated their training when completed. This questionnaire consisted of questions concerning optional courses, training organization, the follow-up of teaching practice, collaboration, influence, and training as a whole. Two versions of a questionnaire were compiled for teacher trainers concerned with subject studies and methods and for teacher trainers concerned with pedagogics. This questionnaire dealt with the resources of the school of education, working methods, knowledge testing, goals of teacher training, collaboration and influence, and the evaluation of training as a whole. In addition, two interview surveys were carried out as part of the KUL-K Project. All principals, directors of studies, and assistant training directors at the 15 schools of education took part in a relatively comprehensive interview concerning (1) the general planning of training, (2) collaboration and influence, (3) the recruitment of teacher trainers and their experience of different school levels, (4) the background of the trainees, the dissemination of information at the school of education, and (5) training as part of a continuous process of educational reform. Also, an intensive study of problem sectors in teacher training involved interviews with teacher trainees and teacher trainers (all heads of institutions) at two schools of education.

Findings: Results from the trainees' evaluation of their training after three terms are (1) among basic courses, pictorial and design work, physical education, and methods and biology are

valued most highly, but coordination of methods and subject studies is less satisfactory; (2) training involves too large a proportion of subject studies, the right amount of pedagogics, and too little methods and practice; (3) trainees feel that they have little opportunity to exert influence on their training; and (4) there is a very low degree of individualization in the training given at schools of education. Out of 12 given objectives of training, priority is given to "insight in the ways in which children and young persons think and react," "practical experience of actual teaching," and "a detailed knowledge of general teaching method." Central problem areas of teacher training include (1) Trainees criticize the content of subject studies. They would like more school level adjustment; (2) A relatively large number of teacher trainers think that trainees are unduly preoccupied with the direct usefulness of their subject studies; (3) Trainees experience the different parts of their training as separate entities, hardly as integral units; (4) Some teacher trainers query the need for training to be experienced as an integral whole by the trainees; (5) Teacher trainers find that collaboration presents a variety of problems; and (6) At the end of the teaching practice term, the majority of trainees rated the term as the most important part of their training. Despite the generally positive assessments of trainees related to the teaching practice term, many trainees find their instruction at the school of education unduly theoretical, and a relatively large number of trainees have only sporadic contact with their tutors. Principals and directors of studies noted that (1) some respondents are apprehensive of an increasingly centralized direction of schools of education; (2) certain teacher trainer categories have had insufficient elementary school experience, and most consider this a disadvantage; (3) many respondents observe that trainees have insufficient experience of environments outside the school; and (4) schools of education appear to lack the facilities to produce the openness to change required by the curriculum.
Duration: 1968-1975.

34-OA-3 SCOTTISH SECONDARY SCHOOL HOSTELS: A SOCIOLOGICAL STUDY OF PUPILS' PERCEPTIONS OF HOSTEL LIFE

Investigator(s): Robin N. Jackson, Ph.D., Lecturer, College of Education, University of Aberdeen, Hilton Place, Aberdeen AB9 1FA, Scotland.
Purpose: To obtain pupils' opinions of the goals a school hostel should pursue and to ascertain whether there are any basic differences in goal expectations between boys and girls; to obtain pupils' evaluation of hostel effort and hostel achievement in order to identify which goals the pupils thought hostels attached greatest/least importance to pursuing and had greatest/least success in achieving; and to compare pupils' perceptions of hostel effort and achievement in single-sex and mixed hostels.
Subjects: 279 boys and 369 girls, ages 15 to 18: pupils from secondary 4th, 5th, and 6th grades, drawn from 22 single-sex and 5 mixed secondary school hostels in Scotland.
Methods: A research instrument was devised to examine (1) pupils' goal expectations, (2) pupils' assessment of organizational effort and achievement, (3) intra- and interrole conflict, and (4) goal displacement. This goal perception instrument was divided into three sections: (1) pupils were asked to indicate on a 6-point scale the degree to which the hostel should pursue each of 24 proposed goals, (2) pupils indicated the degree to which the hostel actually does try to pursue each of the 24 goals, and (3) pupils indicated the degree to which the hostel is successful in achieving goals.
Findings: Boys tend to place higher value on the pursuit of instrumental goals; girls tend to place higher value on expressive goals. The goals highly valued by pupils tend to be the same

goals which are not pursued with any conviction by hostels. Both boys and girls perceive hostels as placing far greater emphasis on the pursuit of organizational goals; i.e., system maintaining goals. Mixed hostels are significantly more successful in creating the kind of institutional climate sought by pupils. Single-sex hostels tend to assume many of the characteristics of a custodial institution.
Duration: August 1971-June 1974.
Cooperating group(s): Education Department, Scotland.

34-OA-4 PARENTAL ATTITUDES TOWARDS THE CENTRALIZATION OF PRIMARY SCHOOL FACILITIES IN RURAL AREAS

Investigator(s): John D. Nisbet, Ph.D., Professor; and Alice D. Findlay, Ph.D., Research Student, Department of Education, University of Aberdeen, King's College, Aberdeen, Scotland.
Purpose: To survey and analyze the attitudes of parents towards the centralization of educational facilities in rural areas, particularly the closure of one- and two-teacher primary schools.
Subjects: Sample 1: 134 parents whose children would be affected by the closure of five one-teacher and five two-teacher primary schools in Scotland. Sample 2: 56 parents whose children attended seven recently closed Scottish primary schools.
Methods: Sample 1: The investigators decided to sample 10 of the 23 schools planned to close in the county of Aberdeenshire instead of using a random sample, in order to examine the social function of the small school in the community. Sample 2: Only seven schools had been closed in the county in the 2 years prior to the investigation. These were all used in the study. The interview schedule was piloted in an adjoining county before administering it in Aberdeenshire. Chi-squares were used to analyze the data.
Findings: Sample 1: The majority of parents (56 percent) supported the retention of small rural primary schools and justified this predominantly on educational grounds. The parents were anxious about the long school day centralization might involve for their children. Local circumstances influenced parental attitudes, particularly the standard of teaching in the school. Despite their concern, the majority of parents felt that they could have very little influence on the Education Committee's decisions. Sample 2: In this type of rural area, centralization does not involve a longer school day for the majority of children. The majority of parents prefer to have their children educated in larger schools after centralization. This result, however, may not be generalizable to other areas because of the influence of local circumstances and because only a small sample was used in this study.
Duration: October 1971-May 1974.
Cooperating group(s): Social Science Research Council, United Kingdom.

34-OA-5 FOUR PRESCHOOL PROGRAMS: THEIR DIMENSIONS AND EFFECTS

Investigator(s): Louise B. Miller, Ph.D., Professor; and Jean L. Dyer, Ph.D., Associate Professor, Department of Psychology, University of Louisville, Louisville, Kentucky 40208.
Purpose: To obtain information on program dimensions of four prekindergarten programs; and to assess program effects on the cognitive, motivational, and perceptual development of 4-year olds.

Subjects: Experimental group: Approximately 214 Head Start children, age 4, in disadvantaged areas of Louisville, Kentucky in two Montessori programs, four traditional enrichment programs, four programs with an academic drill approach, and four programs with an emphasis on aptitudes and attitudes. Control group: Nonpreschool children comparable to experimental subjects; and more advantaged children in a private preschool.
Methods: Children were randomly assigned within schools to experimental or nonexperimental classes. Classes were assessed after 8 weeks and after 6 months of school. Treatments were monitored live, as well as from videotapes. In the kindergarten year, one class from each program entered a token economy Follow-Through program, while the remaining classes entered regular kindergarten. Videotape monitoring was also done in kindergarten and first grade classes. The entire follow-up lasted for 3 years (through the subjects' second grade).
Findings: In regard to program dimensions, there were differences between the prekindergarten programs with most differences in the predicted directions. Similarities and differences depended upon which treatment dimensions were used. Four distinct programs existed only on the more molecular techniques; e.g., modeling or role playing. On some molar dimensions there were only two treatments; while on others, one program stood apart from the other three. All programs were low on some dimensions; and on others, no distinction could be made. The prekindergarten programs had different effects on children both in terms of immediate impact and impact after a 4-year period (regardless of what programs followed). The immediate effects on cognitive variables were predictably greater for more didactic programs. Stable effects over 4 years were found in noncognitive areas. There were no stable main effects from later programs, but differential effects on both cognitive and noncognitive measures resulted from various combinations of prekindergarten and kindergarten programs.
Duration: September 1968-completed.
Cooperating group(s): Office of Economic Opportunity; National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

34-OB-1 SCHOOL INTERVENTION PROGRAM

Investigator(s): Graham Rogeness, M.D., Psychiatrist, Katharine Wright Clinic, 923 West Wellington Street, Chicago, Illinois 60657.
Purpose: To identify behaviors and attitudes that interfere with and promote learning; to change behaviors and attitudes to those that promote learning; and to work with an entire elementary school as the social milieu.
Subjects: 600 elementary school children, grades 1 through 8, comprising the population of one elementary school.
Methods: For the first year of the program, one-half of the teachers' classrooms acted as the experimental or intervention group, while the control group was made up of the other half of the classrooms. Through group and individual consultation, the investigator worked with teachers and the principal to identify behaviors and develop methods of behavior change. Consultations focused on developing problem solving skills and helping the teachers to become active interveners and adopt a research orientation to problem solving. The teachers then tried to change behaviors and attitudes in the classroom through discussion and reinforcement. Teachers completed a behavior checklist, and the children were tested on a manifest anxiety scale, an impulse control scale, and the SRA Achievement Series.
Findings: After the first year, decreases in anxiety and behavior problems and an increase in impulse control were noted in the intervention classrooms. Subjective reports from the principal

and teachers indicated that teachers were more sensitive to children and more willing to try to solve children's problems. In addition, the role of the school psychologist was defined and the position was funded for this school.
Duration: September 1972-September 1974.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Morris Elementary School.

34-OE-1 EARLY IDENTIFICATION OF EDUCATIONALLY HIGH RISK AND HIGH POTENTIAL CHILDREN

Investigator(s): Barbara K. Keogh, Ph.D., Associate Professor and Director; and Melinda W. Sbordone, M.A., Project Coordinator, Special Education Research Program, Graduate School of Education, University of California at Los Angeles, Los Angeles, California 90024.
Purpose: To identify strategies for early recognition of high risk and high potential children in kindergarten and the primary grades; particularly, to delineate child and situational characteristics that may facilitate or be disruptive to success in school.
Subjects: Approximately 300 pupils, half boys and half girls, selected on a random basis from 18 classrooms in five public elementary schools. The sample includes a wide range of socioeconomic status and racial groupings.
Methods: Incoming child characteristics were assessed in October of the kindergarten year with a battery of learning tasks. During February of the kindergarten year, extensive observations were made in classrooms in order to determine characteristics of the instructional programs. Follow-up data (collected in April and May) included direct classroom observation; teachers' perceptions and ratings; and individual assessment of children with measures of attention, persistence, and conceptual tempo. Relationships between instructional programs and child characteristics will be assessed. Children will be followed through the primary grades in order to test the validity of measures for assessing high risk and high potential children.
Duration: October 1973-December 1974.
Cooperating group(s): California State Department of Education; Area D, Los Angeles City Schools.

34-OE-2 PREDICTING PRESCHOOLERS' ACTIVITY CHOICES

Investigator(s): Molly C. Gorelick, Ed.D., Project Director; and Loretta J. Friedman, Ed.M., Clinical Director, Careers in Integrated Early Childhood Programs, Preschool Laboratory Project, California State University at Northridge, 18111 Nordhoff Street, Northridge, California 91324.
Purpose: To determine what choices of learning center activities preschool children make without teacher presence; and to determine how accurately teachers predict the choices of the children in their classrooms.
Subjects: 48 boys and girls, ages 3 to 5, IQs 50 to 150, in three classrooms at the Northridge Preschool Laboratory.
Methods: The learning center consisted of materials set out by the teachers to encourage the children's acquisition of cognitive, psychomotor, affective, or creative skills. For 5 days children were met by the teachers outside the room, then allowed to enter the prearranged set-

ting as a group without the teacher. The teachers and observers were seated behind a one-way mirror and recorded the areas children chose at 1- and 5-minute intervals. A videotape of the children was made simultaneously. Before the children entered the room, teachers recorded their predictions on their lesson plans for the prearranged learning center settings, which were classified into cognitive, psychomotor, and creative activities. They predicted the number of boys and girls who would be at a particular learning center at the specified timed intervals.
Findings: There was no significant difference between teachers' predictions of the children's choices of activities and the observed choices by the children. No significant difference was found between boys and girls in their choice of activities when viewed as a total group. At the first minute interval, cognitive activities predominated; while at the fifth minute, creative activities predominated. In two of the three classes, the type of activity most frequently selected by the children corresponded to the domain the teacher felt she stressed in planning her classroom activities. Although the results indicated that teachers in this study were accurate in their predictions of the children's activity choices in their classes, these teachers had the opportunity to view their children through one-way observation booths during the study. This may have given them an opportunity to correct their perceptions and improve their subsequent predictions.
Duration: September 1973-May 1975.
Publications: Data are available upon request from the investigators.

34-OE-3 THE COGNITIVELY ORIENTED URBAN PREKINDERGARTEN

Investigator(s): Russell A. Dusewicz, Ph.D., Senior Research Associate, Division of Research, Pennsylvania State Department of Education, Harrisburg, Pennsylvania 17126; and Mary Ann O'Connell, M.S., Assistant Director, The PRIDE Project, West Chester State College, West Chester, Pennsylvania 19380.
Purpose: To develop a cognitively oriented prekindergarten program designed to provide educational experience culminating with the participating children's entrance into the kindergarten level of the formal school system, and designed for children who have participated for 2 years in the center based preschool programming of the Pennsylvania Research in Infant Development and Education (PRIDE) Project.
Subjects: 23 girls and 12 boys, ages 3.6 to 4.3, from low income families, whose parents have no training beyond high school.
Methods: The chief objectives of the prekindergarten program are to forestall children's developmental regression generally found attributable to discontinuities in preschool programming and to consequently aid in retaining gains achieved during prior years; to provide for further increases in development by building upon abilities and understandings internalized by the participating children in prior years; and to acclimate the children to a more structured, disciplined, and group oriented instructional environment which they may encounter in the formal school system. The prekindergarten consists of two half-day classes, each involving one-half of the children. Children are tested 2 weeks prior to and immediately after the program period. Instruments used to assess gains in developmental areas are Slosson Intelligence Test, Peabody Picture Vocabulary Test, Verbal Language Development Scale, and Vineland Social Maturity Scale. Instruments used to measure achievement are Gates-MacGinitie Reading Test and the PRIDE Project's Preschool Assessment of Reading Test and Preschool Assessment of Mathematics Test. The curriculum is divided into academic and general parts. The academic curriculum specifically covers reading, math, science, social studies, and health and safety.

Special instructional sequences have been developed for these subjects. Instructional time is devoted to the areas of reading and math on a daily basis, while the other subjects are treated at various designated times throughout the week. The general curriculum encompasses all other activities, including art, music, small and large motor exercises, and a variety of academic support and free play activities.

Findings: T-tests between pretest means and posttest means indicated that the prekindergartners showed statistically significant gains at the .01 level on all of the developmental measures and the achievement measures.

Duration: July 1972-June 1975.

Cooperating group(s): Elementary and Secondary Education Act, Title III, U. S. Department of Health, Education, and Welfare.

34-OE-4 PRESERVICE VERSUS INSERVICE TEACHER JUDGMENTS CONCERNING CREATIVITY OF PRIMARY CHILDREN

Investigator(s): Nancy L. Quisenberry, Ed.D., Assistant Professor; and Beverly J. Milam, M.S., Graduate Assistant, Department of Elementary Education; and John P. Casey, Ed.D., Professor, Department of Professional Educational Experiences, Southern Illinois University, Carbondale, Illinois 62901.

Purpose: To ascertain the differences between preservice teachers and inservice teachers in their ability to judge responses of primary pupils to certain divergent thinking tasks.

Subjects: 285 students, from kindergarten and grades 1, 2, and 3; 23 preservice and 27 inservice teachers.

Methods: An adaptation of the Figure Completion and Picture from Circles Tests obtained from the Minnesota Test of Creative Thinking was administered to the students. The tests were administered by classrooms allowing 20 minutes for each test. Preservice and inservice teacher judgments were obtained from the Teacher Response Sheets, which were prepared from a random sampling of the children's responses in three categories: original response, fairly common response, or very common and obvious response. Percentages and Spearman rank correlation coefficients were used to analyze the data.

Findings: Preservice teachers' responses to pupils' original responses were significantly related to three of the Figure Completion Test items and one of the Pictures from Circles Test items. Inservice teachers' responses to pupils' original responses were significantly related to four of the Figure Completion Test items and two of the Circle Test items. There were no significant relationships at the .05 level between the preservice and inservice teachers' groups on the Figure Completion Test (r_{xy} = .49). A coefficient of .66 obtained for the Picture from Circles Test indicates that there was a significant relationship between the two groups on the Picture from Circles Test at the .05 level of significance. A comparison of inservice teachers who had and who had not taken a creativity course revealed no significant difference as measured by the Mann-Whitney U Test.

Duration: December 1973-April 1974.

34-OH-1 OBSERVATIONAL STUDIES OF CHILDREN'S EXPECTATIONS

Investigator(s): Doris R. Entwisle, Ph.D., Professor, Department of Social Relations and Engineering Science, Johns Hopkins University, Charles and 34th Streets, Baltimore, Maryland 21218.
Purpose: To determine how social context affects how a child develops expectations for his own academic performance; and to determine how children's expectations shape performance.
Subjects: All first and second grade children in a middle class White school, and all first grade children in a lower class integrated school (40 percent White).
Methods: Observational data are procured over time. Children are asked what they expect to get on their first report card in reading, arithmetic, and conduct. Subjects are asked for their expectations again, after they have received their marks. Parents are also asked what marks they expect their children to get. Finally, each child's performance in reading, arithmetic, and conduct is studied as a function of their expectations.
Findings: Middle class children are unable to forecast their marks accurately before their first report cart, but accuracy increases later. Lower class children did not predict accurately even after three report cards in third grade. Lower class children's expectations are higher than middle class children's expectations.
Duration: 1971-1977.
Cooperating group(s): Office of Education, U. S. Department of Health, Education, and Welfare; National Institute of Education, U. S. Department of Health, Education, and Welfare.

34-OJ-1 A PERSONALIZED KINDERGARTEN PROGRAM WITH SUPPLEMENTARY PARENT INVOLVEMENT

Investigator(s): Deane Darnell, Ph.D., Coordinator, Early Childhood Education, Boulder Valley Public Schools, P. O. Box 11, Boulder, Colorado 80302.
Purpose: To develop and field test an innovative program involving a systematic observation of kindergartners' individual learning needs; to assist teachers in developing methods for personalizing classroom programs; and to aid parents in facilitating the educational progress of their child.
Subjects: 1,260 children: 220 entering kindergartners and 200 control pupils each year for 3 years, from all socioeconomic levels and comprising a cross-section of the community. Pilot and control samples are matched on socioeconomic level and teacher experience.
Methods: This study poses the question: Will children entering kindergarten, who appear to have developmental learning delays, be able to make a year or more growth in those areas if they are given a personalized school learning program and a supplementary at home learning program directed by their parents? (Parents are trained and supplied with all needed materials for a home program.) The independent variables are age, sex, socioeconomic level, pretesting, parental judgments, preschool experience, and place in the family. Dependent variables are measured both by posttesting and teacher judgment. Statistics to be used include percentiles, correlations, analysis of variance, t-tests, and nonparametrics.
Findings: Children who are identified as having developmental learning delays and have the advantage of the personalized school learning program make slightly better progress than control pupils, but the home learning program produces both significant and lasting effects.
Duration: July 1972-August 1975.
Cooperating group(s): Elementary and Secondary Education Act, Title III.

Publications: A free brochure is available from the investigator. Other available materials include a packet of curriculum materials ($2.50), a report of the second project year ($2.50), and the complete kindergarten curriculum ($25.00).

34-OK-1 INTEGRATED SCHOOL SOCIALIZATION STUDY

Investigator(s): Ray C. Rist, Ph.D., Senior Policy Analyst, National Institute of Education, U. S. Department of Health, Education, and Welfare, Washington, D. C. 20208.
Purpose: To study the processes of desegration in a White middle class school during its first year of bussing with particular reference to both teacher-pupil and pupil-pupil interactions.
Subjects: 70 students in three first grade classes, 23 students in one third grade class, and 24 students in one fourth grade class in a White middle class school.
Methods: The major methodological approach was direct classroom observation. Interviews were conducted with students, teachers, the principal, and parents. Other secondary approaches were surveys and use of documents. Data were analyzed within a framework of building an ethnographic case study of school desegregation.
Findings: There are multiple realities in regard to school integration; and within any one school, many are operationalized by teachers, principal, and students. The consequence is often confusion and frustration over the lack of shared meanings.
Duration: August 1973-June 1975.
Cooperating group(s): Sociology Program, National Science Foundation.
Publications: (1) Rist, R. C. Bussing white children into black schools. *Integrated Education,* July/August 1974, 12(4). (2) Rist, R. C. Race, policy, and schooling. *Society,* November/December 1974, 12(1).

Specific Skills

34-PA-1 EFFECTS OF ONE-TO-ONE CORRESPONDENCE, REVERSIBILITY, AND ACTIVE COUNTING TRAININGS ON NURSERY SCHOOL CHILDREN'S NUMBER CONSERVATION

Investigator(s): Nancy L. Quisenberry, Ed.D., Assistant Professor, Department of Elementary Education; and Viet Nu Vu, M.S., Graduate Assistant, Department of Guidance and Educational Psychology, Southern Illinois University, Carbondale, Illinois 62901.
Purpose: To consider two questions: (1) Does training in one-to-one correspondence, reversibility, and active counting induce number conservation in 3- and 4-year-old children? and (2) Is there a difference in the effectiveness of the three types of training?
Subjects: 16 children, ages 3.3 to 4, enrolled in nursery school for 9 months.
Methods: The subjects were given a pretest consisting of two number conservation tasks and one counting task to determine that they did not conserve numbers. Four children received reversibility training, four children received one-to-one correspondence training, four children received active counting training, and four children served as the control group. Data were analyzed using the test of difference in proportions.

Findings: Only one child conserved at the time of the posttest. There was no significant difference between the proportions of the conservers in each of the three experimental groups based on the posttests. There was also no significant difference between the proportions of conservers in the experimental group and the control group as evidenced by posttest results.
Duration: January 1974-June 1974.
Publications: Results are available from the investigator.

34-PA-2 COMPARATIVE STUDIES OF MATHEMATICS FOR PRIMARY AGE CHILDREN IN AUSTRALIA, JAPAN, ENGLAND, AND THE UNITED STATES

Investigator(s): W. H. Dutton, Ed.D., Professor, Curriculum and Mathematics Education, Graduate School of Education, University of California at Los Angeles, Los Angeles, California 90024.
Purpose: To study the cognitive and developmental learning experiences related to mathematics of 5- to 8-year-old children; and to search for new sources of input for mathematics curricula by comparing programs in Australia, Japan, England, and the United States.
Subjects: Mathematics programs in elementary schools in Australia, Japan, England, and the United States.
Methods: The four nations were selected because Japan has the highest achievement and the most positive attitude in mathematics in an international study of mathematics achievement; Australia has the newest comprehensive, integrated, and systematic approach to learning mathematics in the initial 3 years of school (based on a comparative study of 12 countries); England provides the opportunity to study innovative practices in informal as well as experimental schools in selected primary schools in the London area; and the United States has expended large sums of money on mathematical programs and has emphasized the *new mathematics.* A careful study of curricula was made for each country or city. Classroom observations were used to verify the utilization of curriculum materials and methods, and instruction was videotaped. Also, conferences were held with principals, teachers, parents, and pupils. The investigator evaluated each program in terms of the stated objectives, use of curriculum materials, and reports providing evidence of achievement. A monograph will be written reporting curriculum development and instructional practices in the countries studied, and a model will be suggested for teaching mathematics to primary age children.
Duration: 1973-1976.
Cooperating group(s): Comparative and International Committee and Academic Senate Research Committee, University of California at Los Angeles.

34-PB-1 MINNESOTA STATEWIDE EDUCATIONAL ASSESSMENT IN READING

Investigator(s): John W. Adams, Ph.D., Director, Statewide Assessment Program, Minnesota State Department of Education, 731 Capitol Square Building, 550 Cedar Street, St. Paul, Minnesota 55101.
Purpose: To assess reading performance levels of Minnesota students; and to gather data that will assist in planning and development for improved reading in Minnesota.
Subjects: 29,800 students composing a stratified random sample designed to represent all types

of students in Minnesota at three levels: age 9, 15,000 students; age 13, 10,000 students; and age 17, 4,800 students.

Methods: The assessment instruments and related data gathering materials were developed through a process of statewide consultation with professional and lay groups involved in the field of reading. Reading skills are measured with reference to criteria that are based on objectives and are representative of all reading skill levels. Objective-based instrumentation was developed, piloted, and revised by a University of Minnesota team in consultation with a statewide advisory group. Sampling and instrument administrative procedures were carefully controlled and followed the model developed by the National Assessment of Educational Process (NAEP). Instruments included exact NAEP terms so that comparisons between Minnesota and national performances can be made.

Findings: Preliminary analysis of data for 17-year olds shows that Minnesota students of this age perform significantly better than do their counterparts nationwide.

Duration: 1971-continuing.

Cooperating group(s): Research Triangle Institute; University of Minnesota.

Publications: Results are available from the investigator.

34-PB-2 FUNCTIONAL READING LEVELS: FROM GRADED WORD LISTS?

Investigator(s): Victor Froese, Assistant Professor, Faculty of Education, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada.

Purpose: To determine if and how accurately reading levels can be predicted from word recognition tests.

Subjects: Approximately 150 students, 25 each from grades 1 through 6.

Methods: All subjects were tested by a trained examiner on the Standard Reading Inventory. The following information was tabulated from completed test profiles: (1) independent reading level, (2) minimum instructional level, (3) maximum instructional level, (4) frustration level, (5) number of words correct on each grade level list attempted, (6) grade level at which testing was terminated (cut-off), and (7) sum of correct responses to cut-off. Stepwise multiple regression, T-test, and descriptive statistics were used to test four hypotheses.

Findings: The number of words correct on each grade level list attempted and the grade level at which testing was terminated correlated very highly (.822 to .930) with functional reading levels. Cut-off—1 predicted 80 percent correctly.

Duration: June 1974-continuing.

Publications: Results are available from the investigator.

34-PB-3 RELATIONSHIPS BETWEEN ORAL READING RATES FOR LETTERS, WORDS, AND SIMPLE TEXT, AND THE DEVELOPMENT OF READING ABILITY

Investigator(s): Andrew Biemiller, Ph.D., Associate Professor, Faculty of Education, Institute of Child Study, University of Toronto, 45 Walmer Road, Toronto, Ontario, Canada.

Purpose: To trace the development of reading speed and reading ability in the early elementary school years when reading speed and ability appear to be closely related; and to isolate the differences in the rates of feature processing, word processing, and text processing by obtaining oral reading rates for letters, unrelated words, and simple text.

Subjects: Data have been obtained over a 5-year period on 162 children in grades 1 through 6 (most of whom attended the Laboratory School of the Institute of Child Study) and on 20 adults. Most of the children had above average reading ability and were from the upper middle class. Children who were unable to read simple primer vocabulary were excluded from the sample.

Methods: Each subject was tested individually on three kinds of reading materials. Text passages of 100 words were drawn from a first grade basal reader (Nelson Series). Also, two 50-word lists were selected from the 100-word passages by listing every other word going backwards from the end of the text. This procedure used to a degree the frequency of words occurring in the text without maintaining any meaningful structure. Two 50-letter lists were selected by taking a random selection of all the letters of the alphabet. The order of presentation of these materials in testing was a single 50-item letter passage, a 50-item word passage, and then a 100-word text passage, so that subjects would have the easiest task first. Reading times were measured by a stopwatch or by tape recording the child's reading, converting it to graph form, and then the time was measured on the graph. Reading speeds were reported in mean time per unit; i.e., letter or word. Metropolitan Achievement Test (MAT) reading scale data were obtained for 51 subjects (in normal classroom group testing) to compare oral reading rates with reading ability. Product-moment correlations were used to examine reliability (test-retest), longitudinal stability, and the relationships between pairs of variables, both concurrently and longitudinally. Multiple regression analysis was used to examine the contributions of letter and word time variance to text time variance, and the contributions of the three reading times to MAT reading scale variance.

Findings: Test-retest reliability coefficients ranged from .78 to .92, averaging .86. Speed increases with age on all three types of reading times. The results replicated Cattell's (1885) finding that reading times for letters and simple words are about the same, while times for text are somewhat faster. The existence of a fairly substantial speed ability common to all three tasks is indicated (i.e., the component associated with letter times). Between grades 2 and 5, this component probably accounts for 50 percent of text time variance, while additional variance associated with word times appears to be around 25 percent. The 25 percent of text time variance not associated with letter and word time variances is not much greater than would be expected on the basis of the reliability of the measures. Hence, context-using skills do not appear to play a major role in the time required to read the simple passage used. Reading times are highly correlated with MAT scores at all grade levels, except 1 and 6. Multiple regression analysis indicates that, between grades 2 and 5, 25 to 50 percent of MAT variance is associated with letter times alone, with a median of 37 percent. This suggests that the relatively simple skill of identifying a number of letters rapidly plays a major role in effective reading. The investigator concluded that the results provide strong evidence for the existence of a common variable affecting speed of reading with or without the facilitation of contextual or word structure, and that this variable is also associated with performance on a standardized reading comprehension test. The existence of this common speed variable suggests that the role of individual differences in the use of intraword and contextual structure to facilitate reading may have been overestimated.

Duration: 1969-1974.

Cooperating group(s): Ontario Institute for Studies in Education; Ontario Educational Research Council; Laboratory School of the Institute of Child Study; Toronto Board of Education.

34-PB-4 A GUIDE TO ORAL READING SPEEDS

Investigator(s): Andrew Biemiller, Ph.D., Associate Professor, Faculty of Education, Institute of Child Study, University of Toronto, 45 Walmer Road, Toronto, Ontario, Canada.
Purpose: To assess the implications of oral reading speeds (the time required to read passages of letters and text) on children's reading abilities.
Subjects: 59 children in grades 3 through 6.
Methods: An assessor determined how rapidly each child could read a passage of 50 typewritten, lower case letters and a text passage from the Nelson Series Primer, *Mr. Whiskers.* Reading ability was determined by noting the most difficult passage a child could read without making more than five errors per 100 words. Five reading ability groups were identified. Abilities ranged from the advanced group, whose slowest reader read at the rate of 230 words per minute, to the fifth group of children who could not read the primer material. The data were examined for group, age, and grade differences; and the practical implications of oral reading speeds on educational considerations, such as the value of reading practice and the selection of appropriate reading materials, were discussed.
Findings: When children are grouped by reading speed criteria, age differences in reading times appear small. The more able groups of children read letters faster than the less able groups. The more able readers show a larger difference between letter and text times, suggesting that use of context plays a role in their increased competence. The investigator suggested that the basic speed or recognition ability may be a prerequisite for readiness for adequate reading.
Duration: 1969-completed.
Cooperating group(s): Ontario Institute for Studies in Education; Ontario Educational Research Council; Toronto Board of Education.
Publications: A paper presented at a conference of the Ontario Institute for Studies in Education on New Perspectives in School and Community Psychology: Structure and Strategy, Toronto, February 1974: Biemiller, A. A guide to oral reading speeds.

34-PB-5 A STUDY OF THE YOUNG CHILD'S EARLY APPROACHES TO READING: THE FIRST LEVEL OF A DEVELOPMENTAL MODEL OF READING

Investigator(s): Jana M. Lucas, Ph.D., Assistant Professor; and William N. Zoellick, M.A., Graduate Student, College of Education, 230 Education Building, University of Illinois, Urbana, Illinois 61801.
Purpose: To study the process of reading from a developmental viewpoint.
Subjects: 20 girls and 20 boys, age 4, from an upper middle class population.
Methods: Two treatment groups were used. Data were collected over a 9-month period using reading tests, Piagetian measures of logical development, word recall, clustering, and new tests. Statistics used include correlation, discriminant analysis, F-tests, and T-tests.
Findings: Children at the first level in reading tend to memorize whole words, avoiding letter-sound analysis even when given a letter-sound treatment.
Duration: September 1973-December 1974.
Cooperating group(s): Children's Research Center Preschool, University of Illinois.

34-PB-6 THE EFFECT OF THE PARENT INVOLVEMENT PROGRAM ON READING READINESS SCORES

Investigator(s): Carol Woods, B. A., Coordinator, Parent Involvement Program; Douglas P. Barnard, Ed.D., Director, Reading and Language Arts; and Eleanor TeSelle, M.A., Director, Title I Programs, Curriculum and Instruction Center, Mesa Public Schools, 14 West Second Avenue, Mesa, Arizona 85202.

Purpose: To determine the difference in reading readiness test scores between kindergarten students whose parents participated in the Parent Involvement Program and children whose parents did not participate.

Subjects: A random, proportional, stratified sample of 40 kindergartners from five Title I schools whose parents attended the Parent Involvement Program; and 40 kindergartners whose parents did not attend the program.

Methods: Parents of the experimental subjects attended the Parent Involvement Program 2 days each week. The first day was spent making games designed to teach specific readiness skills, and on the second day, parents went into the classroom to work with a group of students with the games. Parents took the games home to reinforce the skills with their children. The instrument utilized for pretests was the Murphy-Durrell Letter Recognition Subtest, and the posttests consisted of the letter recognition subtest and the phoneme subtest. Trained paraprofessionals administered the pre- and posttests. The two groups were compared with an independent t-test.

Findings: The results suggest that for learning letter recognition, all children who were taught by the parents mastered this skill regardless of whether or not their parents attended the Parent Involvement Program. On the more difficult task of learning phonemes, the children whose parents attended the program learned more letter sounds than children whose parents did not attend.

Duration: September 1973-June 1974.

Cooperating group(s): Elementary and Secondary Education Act, Title I.

Publications: Data are available from the investigators.

34-PC-1 INDIVIDUALIZING SCIENCE INSTRUCTION

Investigator(s): Herbert D. Thier, Ed.D., Research Educator; and Marcia C. Linn, Ph.D., Research Psychologist, AESOP, Lawrence Hall of Science, University of California at Berkeley, Berkeley, California 94720.

Purpose: To investigate methods for teaching middle school children to recognize variables and interpret experiments by developing individualized science projects; and to evaluate the success of individualized science projects with children.

Subjects: 350 middle class and culturally diverse 4th, 5th, and 6th graders.

Methods: Three subexperiments were conducted with three different subject populations. In Experiment I, 60 control and 60 experimental subjects were used. Experiment II employed 150 culturally diverse subjects (50 independent workers, 50 peer team workers, and 50 controls). In the third experiment, the subjects were 80 middle class children, 40 controls and 40 peer team workers. Experimental subjects participated in science enrichment centers developed by project staff, while controls received this treatment only after all subjects were posttested. Children come to the science centers in groups of 15 and work alone or in small groups on science activities of their choice. About 40 activities, such as "Which liquid is absorbed faster?" "Which sticky stuff is best?" or "Growing crystals," are available and instructions and equipment are provided.

Subjects are encouraged to do additional experiments with the equipment after following the instructions. When they finish one activity, they may choose another. Group measures were devised in order to evaluate progress in ability to recognize variables and interpret experiments. Two sets of parallel forms of the Science Process Test were developed. The test consists of showing an experimental situation on film, illustrating a question, and asking for a response (e.g., A balloon powered box is shown with a full balloon and a half balloon. The question: "Suppose you wanted to find out about the amount of air in the balloon. If you released the full balloon from this box, which box would you use for the half full balloon?"). Each form of the test has nine questions and is administered in two 30-minute sessions. Subjects in Experiments I, II, and III were pre- and posttested with the Science Process Test. Achievement test scores were obtained for Experiment I. Other measures used in Experiment II were Locus of Control, Classroom Preference Inventory, and Kohs Blocks. Locus of Control and Classroom Preference Inventory were also used in Experiment III.

Findings: Analysis of variance revealed that experimentals exceeded controls in ability to interpret experiments. General ability and preference for working independently accounted for significant portions of posttest variance.

Duration: September 1973-continuing.

Cooperating group(s): National Science Foundation.

Publications: Research reports are available from the investigators.

Special Education

34-QG-1 4-C MANPOWER TRAINING PROGRAM FOR ENTRY PARTICIPANTS

Investigator(s): Russell A. Dusewicz, Ph.D., Senior Research Associate, Division of Research, Pennsylvania State Department of Education, Box 911, Harrisburg, Pennsylvania 17126; and Mary Ann O'Connell, M.S., Assistant Director, PRIDE Project, West Chester State College, West Chester, Pennsylvania 19380.

Purpose: To design and implement the Entry Level 4-C Manpower Training Course to train prospective teacher aides for the child care services field; and to provide course experiences that help students develop familiarity with the concepts of child development, as well as skill in practicing the techniques of early childhood education.

Subjects: 48 women, ages late teens to early sixties, who participated in one of the three Entry Level courses offered between 1970 and 1973. No subjects had any prior experience or instruction in working with young children in a day care or preschool setting. Most participants were working mothers with children enrolled in a day care center.

Methods: Prior to beginning the Entry Level course, all class members were pretested with the Knowledge of Infant Development Scale which tests for knowledge of concepts and terminology in child development. The first phase of the course was followed by a 30-hour seminar focusing on developmental patterns and principles and physical, motor, social, psychological, and cognitive development. A posttest, using the same scale, was administered. Mean gain scores were computed for each of the 3 years.

Findings: In the 42-item Knowledge of Infant Development Scale, gain scores were 2.6 (1970-71), 4.9(1971-72), and 1.8(1972-73). Gains for the first 2 years were statistically significant at the .01 level.

Duration: September 1970-completed.

Cooperating group(s): Education Professions Development Act, U. S. Department of Health, Education, and Welfare.
Publications: Dusewicz, R. A. A scale for assessing knowledge of child development. *Education,* 1972, 93, 252-253. For further information, write to Dr. R. A. Dusewicz.

34-QH-1 A REGIONAL TRAINING PROGRAM FOR PROFESSIONAL AFTER CLASS STAFF IN RESIDENTIAL SCHOOLS FOR DEAF CHILDREN

Investigator(s): Doris W. Naiman, Ph.D., Director of Training, Deafness Research and Training Center, New York University, School of Education, 80 Washington Square East, New York, New York 10003.
Purpose: To develop a regional prototype for inservice training of professional after class staff; to disseminate information about the training model; and to create a 24-hour learning environment for deaf children that will enhance their academic progress and social development.
Subjects: Six residential schools in northeastern United States each represented by three staff members at training institutes.
Methods: Three staff members from each school attended five training institutes and served as trainers in their own schools. Baseline and final data were obtained to measure changes in children and staff. Two training sequences were given (West and East Coasts) to enable area schools and training institutions to use the regional prototype to establish their own comprehensive programs of inservice training for after class staff. A training package for staff development has been prepared for distribution nationally.
Findings: Overall results support the conclusion that changes were happening in the desired direction. Funding has been obtained to put the training package in each residential school in the United States during the coming year.
Duration: September 1971-August 1974.
Cooperating group(s): Bureau of Education for Handicapped, Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; Social and Rehabilitation Service, U. S. Department of Health, Education, and Welfare.
Publications: (1) A report of a conference held at California School for the Deaf, Berkeley, California, November 1973; Staff development in residential schools. *The California News,* January 1974, 89(4). (2) Naiman, D. W. and Mashikian, H. S. *A handbook for staff development in residential schools for deaf children.* New York: New York University Deafness Research and Training Center, August 1973. (3) Naiman, D. W. A model for inservice training of afterclass staff. *American Annals of the Deaf,* August 1972, 117(4). (4) Naiman, D. W. (Ed.) *Inservice training for afterclass staff in residential schools.* New York: New York University Deafness Research and Training Center, August 1972.

34-QH-2 METHODOLOGICAL STUDY OF FOLLOW-UP EVALUATION

Investigator(s): Sidney W. Bijou, Ph.D., Professor, Department of Psychology; and Member, Institute for Research on Exceptional Children, Child Behavior Laboratory, University of Illinois, 403 East Healey, Champaign, Illinois 61820.
Purpose: To develop procedures to improve outcome evaluation of educational intervention programs involving gifted, normal, or handicapped children.

Subjects: 25 boys and 25 girls, ages 4 to 12, including gifted, normal, and handicapped children.
Methods: An individual research design (N = 1) is employed; subjects are studied over a 3-year period. This study involves developing a procedure which takes into account both ability measures and measures of the child's classroom situation at the time of follow-up assessment. Abilities are assessed by administering standardized achievement tests. The child's classroom situation is assessed through observational procedures, yielding a description in behavioral terms of the percentages of time the child was on-task and off-task and teacher interactions.
Duration: September 1973-June 1976.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare; Colonel Wolfe School, Urbana, Illinois; Adler Zone Center; public schools in Champaign-Urbana, Illinois.

SOCIAL SERVICES

34-RA-1 NATIONAL TRAINING PROGRAM FOR RUNAWAY YOUTHS

Investigator(s): William M. Peck, M.S.W., Project Coordinator, School of Social Work, New York University, 3 Washington Square North, New York, New York 10003; and Wayne E. Hinrichs, M.S.W., Associate Director, Travelers Aid-International Social Service of America, 345 East 46th Street, New York, New York 10017.

Purpose: To establish a national training program related to runaway youths that will be broad enough to be adopted by regional and local agencies according to their particular level of need.

Methods: The National Training Program (NTP) is aimed primarily at staff involved with the training of direct service personnel on a local agency level. The program will be made available to educational facilities as a method of enriching their curricula. The training program operates on two basic assumptions: (1) Runaway and other youth-serving programs, however effective, can improve services through participation in a national training effort; and (2) The participation of these programs, together with educational institutions, is essential in producing a training package that is comprehensive, flexible, and relevant. Phase 1: Background material was organized, and a form letter, information sheet, and questionnaire package were distributed to all known runaway centers (N = 80) in the United States. The investigators also requested that institutions share with them applicable training materials. Fifty responses and training materials from 15 of these centers were received. Questionnaires were also mailed to 150 Travelers Aid-International Social Service of America and United Way agencies throughout the country. Phase 2: After reviewing the questionnaires, the NTP will prepare its initial draft of a training package that will focus on staff orientation and inservice training, as well as related areas including (1) adjustment of staffing to available budget and manpower, (2) screening new staff, (3) recruiting and training volunteers, (4) overlapping staff functions to promote cohesion, (5) backup and teaming techniques, (6) recordkeeping, and (7) communication. A series of 2- or 3-day regional workshops will be conducted throughout the United States with clusters of programs, educational institutions, and representatives of the Department of Health, Education, and Welfare to review, expand, and develop the initial draft of the training package. The goal of the workshops is to develop staff training techniques that can be applied by workshop participants from a variety of agencies serving runaways and other troubled youths. Areas of service could include family counseling, group leadership, administration, crisis intervention, staff self-awareness, and staff communication. Extensive follow-up contact by the NTP will synthesize the workshop results into a second draft of the training package to be tested by some participating programs. Following the field tests and additional input from programs, a final draft of the training package will be prepared.

Duration: September 1974-September 1975.

Cooperating group(s): Community Services Administration, Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare.

34-RD-1 DESCRIPTION OF TRENDS IN USE OF ADOPTIONS SERVICES FOLLOWING CHANGE IN CALIFORNIA ABORTION LAWS

Investigator(s): Charles A. Allen, B.A.; David L. Heinen, M.S.W.; and Gary L. McCoy, M.B.A., Social Service Analysts, Santa Clara County Department of Social Services, 55 West Younger Avenue, San Jose, California 95114.

Purpose: To aid administrative planning by assessing the increased role of hard to place children in adoption activity over the last 5 years and by systematically describing and analyzing the changing patterns in client population through a year by year comparison from 1969 through 1973.

Subjects: Adoptions Bureau clientele from 1969 through 1973 (following liberalization of California abortion law): all the children placed and all related natural parent and adoptive parent cases, and a sufficient sample of other adoptive and natural parent cases over the same time span to insure a 95 percent reliability.

Methods: A systematic review of sample case records focusing on demographics, situational factors, and other characteristics of natural and adoptive children was conducted. The statistical relationship of these demographic and situational factors to adoptive outcome will be studied. An empirically derived description of patterns and trends noted during 1969-1973 will also be completed.

Findings: Preliminary results show that nearly four times as many natural parents who applied for services ultimately decided to keep their child(ren) in 1969 as compared to 1973 (34.3 percent versus 7.7 percent of year's total natural parent cases). In 1973 a remarkably higher percentage of natural parents decided on abortion than in 1969 (36.3 percent versus 0.9 percent respectively).

Duration: October 1973-October 1974.

Publications: This investigation was published by the Santa Clara County Department of Social Services. Copies are sent without charge to major professional publications with permission to copy or excerpt.

34-RD-2 NAACP TRI-STATE ADOPTION PROJECT

Investigator(s): Brenda J. Williams, M.S.W., Training Coordinator, NAACP Tri-State Adoption Project, 970 Hunter Street, N.W., Suite 205, Atlanta, Georgia 30314.

Purpose: To educate communities and recruit adoptive homes for Black and White children with physical, mental, and social handicaps in Georgia, Tennessee, and Florida.

Subjects: Black and White children currently residing in foster homes and institutions who are in need of permanent homes, particularly older and hard to place children.

Methods: The project staff recruits potential adoptive parents and educates the community by working with a variety of organizations. The staff conducts door-to-door surveys, conducts mass media campaigns, and speaks publicly to various groups.

Findings: Based upon interviews with agency staff, Black adoptive parents, and community groups, several deterrents to the adoption of Black children are (1) the time and red tape involved in completing an adoption; (2) psychological probing; and (3) the emphasis on externals, such as housing and income, rather than the ability to love and rear children.

Duration: May 1972-June 1977.

Publications: A manual that discusses the project's findings and recommendations will be published.

34-RE-1 PREVENTIVE SERVICES DEMONSTRATION

Investigator(s): Ann W. Shyne, Ph.D., Research Director; and Mary Ann Jones, M.S.W., Study Director, Child Welfare League of America, 67 Irving Place, New York, New York 10003.

Purpose: To test the effectiveness of intensive family casework services (supplemented by day care, homemaker services, and vocational/educational services) to avert or shorten foster care placement.

Subjects: Approximately 600 families of children under 14, who are already in foster care, or who social services officials have determined require foster care in the absence of intensive family casework services.

Methods: Service demonstrations will be carried out in seven voluntary and two public child welfare agencies for 1 year. The regular services of the agency include, but are not limited to, foster care of children in foster family homes, group homes, and institutions. The distinguishing characteristics of the demonstration units are smaller caseloads, greater access to supportive services, and a commitment to work with natural families to minimize separation of child from family. The demonstrations in each agency are provided through a special staff unit of at least four social workers and an administrator/supervisor, but the demonstration staff is larger in some of the agencies. The maximum caseload per worker is 10 families (a smaller caseload than in a regular program) to permit more intensive service. To be eligible for funding an agency had to provide or have ready access to day care, homemaker services, and vocational/educational services to be utilized as needed in implementing the plan for the children of concern. The actual organization of staff and method of service delivery vary somewhat from agency to agency. A great deal of work with other agencies on behalf of the family, such as the public assistance agency and the housing authority, is done by the demonstration staffs. No case is screened into the project unless the agency believes that the time in placement will be shorter if the intensive services of the demonstration are provided than if the case was served in the regular agency program, and that this difference will show within 6 months. Service demonstrations will be evaluated through a modified control group design, with data furnished by caseworkers at time of admission to the project and at case closing or the end of the year. More detailed data on service input in the experimental group will be obtained through monthly service schedules.

Duration: December 1973-December 1975.

Cooperating group(s): New York State Department of Social Services; Monroe County and Westchester County Departments of Social Services, New York; seven voluntary agencies in New York City.

34-RE-2 FOSTER PARENT TRAINING PROGRAM

Investigator(s): John D. Burchard, Ph.D., Professor; and Harold Leitenberg, Ph.D., Professor, Department of Psychology, University of Vermont, Burlington, Vermont 05401.

Purpose: To establish and test a training program for foster parents of state referred children (ages 9 to 16) in need of services; specifically, to train both foster parents and youths in the use of communication and negotiation skills for the joint solution of behavior problems; and to prevent delinquency through the foster parent system.

Subjects: Three boys and four girls, ages 12 to 16; and eight married couples and two unmarried women, ages 25 to 50. At least three more youths of similar ages will take part in the program.
Methods: The project employs a single subject experimental design. Control groups are comprised of group home placements, natural home placements, other foster home placements, and institutional placements. Data collection consists of long-term tracking of subjects' social integration based on police reports and school records.
Duration: September 1974-September 1977.
Cooperating group(s): Vermont State Department of Social and Rehabilitation Services; Vermont State Department of Corrections.

34-RF-1 DAY CARE LICENSING: 1973 CASE ACTIONS

Investigator(s): James G. Hohn, M.S.W.; and Robert Lindley, B.S., Social Service Analysts, Santa Clara County Department of Social Services, 55 Younger Avenue, San Jose, California 95114.
Purpose: To develop early means of identifying day care licensing applicants who are potential withdrawals, in order to minimize the net loss of staff time in dealing with applicants who later withdraw.
Subjects: Four subsamples drawn from 1973 case actions in four groups: withdrawals, renewals, cancellations and expirations, and new licenses.
Methods: Resultant sample cases were read focusing on demographic factors, attitudes, and other licensee-family characteristics. Previous experience as day care licensees and motivational factors were noted at the time of licensing. In addition, the judgments of licensing workers were recorded.
Findings: Preliminary findings indicate a statistically significant relationship between withdrawal rate and (1) delay in agency response (i.e., time until first home visit), and (2) primary applicants with financial motivation versus primary applicants with altruistic motivation (e.g., providing company for natural children).
Duration: February 1974-May 1974.
Publications: The investigators will send copies of the study without charge to major professional publications with permission to copy or excerpt.

34-RF-2 PRESCHOOL RECORD STUDY

Investigator(s): Robert J. Marshall, Jr., M.A., Research Assistant, Brown University, Population Training Laboratory, Providence, Rhode Island 02912; and Family Counselor, The Salvation Army Day Care Center, Providence, Rhode Island 02905.
Purpose: To accurately describe the past and present clients of The Salvation Army Day Care Center related to their individual and family situations, especially demographic and socioeconomic characteristics; and to relate these characteristics to the present organization of the services offered, in order to (1) develop a model of day care clients and ascertain whether additional supportive, therapeutic services are needed; (2) identify the population which the center serves; and (3) indicate more concentrated services or specific recruitment of individuals in special situations.

Subjects: All past and present Salvation Army Day Care families, Providence, Rhode Island.

Methods: The study is generally exploratory and descriptive in nature with planned possibilities for correlational analysis (e.g., association between father's occupational status and child's adjustment scale; correlation between family income and duration of day care). Methodology consists of recoding data taken from standard case records using a coding schedule with the child as the unit of analysis. Data will be collected from the agency, the individual, and the family. Certain items may also be used in hypothesis testing, such as the investigation of the relationship between the number of separations that a child experiences and the exhibition of behavioral problems. Data will be prepared for computer analysis, and output will consist of frequency and percentages of various attributes of day care families and children.

Duration: June 1974-December 1974.

Cooperating group(s): Providence Preschool Services; Department of Neighborhood Mental Health.

Publications: Results are available from the investigator.

34-RF-3 WHO CARES FOR CHILDREN: NORTH CAROLINA CHILD CARE SERVICES ASSESSMENT

Investigator(s): John R. B. Hawes, Jr., Executive Director; and Mary T. Semans, Chairman, Children's 100, Learning Institute of North Carolina, 1006 Lamond Avenue, Durham, North Carolina 27701.

Purpose: To compile comprehensive information on current conditions, needs, and status of child care services in each of North Carolina's 100 counties.

Subjects: Over 50 percent of all known child care services in North Carolina, including enrichment programs such as part-day kindergartens, nursery schools, and day care services. Institutions, offering special care for preschoolers (e.g., orphanages, hospitals, and foster homes), were excluded from the survey.

Methods: Assisted by the Durham Community Planning Services task force on day care, the Learning Institute of North Carolina (LINC) staff conducted a pilot study of survey materials and procedures in Durham County. When the survey techniques, materials, and procedures were finalized and the volunteer training program was tested, a statewide survey was undertaken. Over 600 volunteers were involved in this survey. For each county, LINC compiled a list of known child care services drawn from state registration and licensing applications and membership rolls of professional early childhood organizations. After county chairmen checked the list and added other known county services, the LINC staff made a stratified (by type of child care service) random selection, choosing 50 percent of the child care services in each category to be surveyed. Key factors used to classify child care services were length of daily operation and number of children enrolled. Child care services were divided into four categories: day care centers, day care homes, nursery schools, and kindergartens. Volunteers held personal interviews, usually with the director of a child care service, and administered the LINC survey questionnaire. Questions covered health factors, costs, families served, characteristics of mothers, and parent education and involvement. Service directors classified their programs as custodial care or comprehensive or developmental care. (Definition of custodial care: ". . . provides for the safety of the child. It also provides food appropriate to the age of the child and the number of hours the child is in attendance." Definition

of comprehensive or developmental care: ". . . provides for the safety and food needs of the child. In addition, it provides a variety of health, educational, or social services.")
Findings: About a third of the child care services do not require a health examination for all children before they are enrolled. One child in five in North Carolina is enrolled in some known preschool or child care program or public school kindergarten. Eighty-eight percent of the child care services in the state rely entirely or in part on fees from parents for operating funds. Thirteen percent of the child care services have sliding fee scales based on family income. More than half of the 4,600 child care services in the state have a waiting list because they are at capacity. This includes 61 percent of the day care centers, 33 percent of the day care homes, 63 percent of the nursery schools, and 54 percent of the kindergartens. Of the 110,000 preschool children enrolled in child care, fewer than half are in facilities operating more than 4 hours a day. About two-thirds of the child care services have children enrolled whose mothers are not working. More than a third of the child care services are described by their directors or operators as offering only custodial care (food and safety). Admissions policies vary. Seventy percent of the child care services accept children of all races and creeds, and 15 to 23 percent have children enrolled who are physically, mentally, or emotionally handicapped. Average annual operating cost per child for all child care services (full-day and part-day) in North Carolina is $744. Parent involvement in child care services is minimal and perfunctory, with fewer than half involving parents as volunteers, as representatives on policy boards, as employees, or holding workshops for parents. The traditional parent-teacher conference, the most common form of parent involvement, is provided by 70 percent of the services. Kindergartens and nursery schools that provide part-day care offer higher levels of parent involvement than day care centers. Day care homes, by a large margin, offer the lowest.
Duration: 1972-1974.
Cooperating group(s): Mary Reynolds Babcock Foundation; Z. Smith Reynolds Foundation; Durham Community Planning Services; Children's 100 Citizens Group; North Carolina State Division of Health Services, Division of Mental Health, Division of Social Services; Office of Child Development, U.S. Department of Health, Education, and Welfare; Office of Child Day Care Licensing; Office of State Planning.
Publications: Booklet: *Who Cares for Children?* is available from the Learning Institute of North Carolina.

34-RH-1 STUDY OF PHYSICIANS' KNOWLEDGE, ATTITUDES, AND PRACTICES IN RELATION TO CHILD ABUSE AND NEGLECT

Investigator(s): Allan C. Oglesby, M.D., Associate Clinical Professor; Hyman Goldstein, Ph.D., Research Biostatistician; Helen M. Wallace, M.D., Professor; and Alfred C. Hexter, M.A., Biostatistician, Maternal and Child Health Program, School of Public Health, University of California at Berkeley, Berkeley, California 94720.
Purpose: To study the knowledge, attitudes, and practices of a sample of United States pediatricians, radiologists, and other physicians with respect to child abuse in 1973.
Subjects: Random samples of 1,000 board certified pediatricians (approximately 8.2 percent of the total certified) and 1,000 board certified radiologists (approximately 10 percent of the total certified). The pediatricians and radiologists were listed in the latest Directory of Medical Specialists. A random sample of 1,000 other physicians (not board

certified pediatricians or radiologists), who were listed in the latest Directory of the American Medical Association, comprised the rest of the sample.

Methods: A study form was developed, pretested, and mailed to the three samples. Successive follow-up mailings will be sent to nonrespondents to secure an overall response rate of 75 to 80 percent from each of the three groups. The results will be tabulated and analyzed, and a report will be written which will include (1) an estimate of the number of abused children in the United States seen by these three groups of physicians in 1973, (2) the extent to which these physicians are active in the field of child abuse in their communities, (3) the extent of physicians' knowledge on the required reporting and other procedures in their states, (4) the extent to which these physicians feel that child abuse is a widespread problem in the United States, (5) the extent of unmet needs in the field of child abuse reported by these physicians, and (6) the physicians' recommendations in the field of child abuse.

Duration: April 1974-March 1975.

34-RH-2 CHILD ABUSE IN THE SOUTHEAST — REGION IV

Investigator(s): Clara L. Johnson, Ph.D., Research Associate, Regional Institute of Social Welfare Research, University of Georgia, 1260-80 South Lumpkin Street, Athens, Georgia 30601.

Purpose: To determine the major demographic characteristics of abused children, their families, and perpetrators; to analyze the characteristics in terms of the dispositions of the cases; to determine the extent of reporting in Region IV, with particular emphasis on state legislation and programs; and to analyze data for association between selected variables.

Subjects: 1,172 cases comprising the total caseload from three Southeastern states and a 30 percent random sample from four states. Cases were based on records reported to the states' central registries on child abuse reporting forms from January 1, 1968 through December 31, 1972. Some cases were eliminated because (1) unquestionable evidence pointed to accidental causes, and (2) sexual abuse was unaccompanied by other physical injury. Other cases were eliminated because of (1) unintentional neglect; e.g., parental inadequacies or illnesses; and (2) false reports; e.g., custody arguments, acts of vengeance, etc. The sample was not limited to cases in which injuries were inflicted by parents or caretakers nor to cases in which abuse was confirmed.

Methods: A constructed schedule was used for recording data from the case records. The schedule incorporated data (1) on background of the abused child, (2) concerning the abuse incident, (3) that described the nature of the abuse, (4) on background of the parent/substitute(s) of the abused child, and (5) on the perpetrator. Schedule questions for which there were no systematic recorded data in any of the states included the school and employment status of the abused child, persons other than perpetrator present when the abuse incident occurred, medical verification of degree of seriousness of injuries, parents as victims of abuse, and the procedure by which the perpetrator was identified.

Findings: An analysis of the incidents of reported cases within the region over the 5-year study period suggests that, while abusive incidents may be on the increase, changes in the reporting of incidents may be more adequately explained by changes in child abuse reporting laws, the mechanisms for implementing the laws, and/or heightened public awareness. Well over 50 percent of all injured children reported were under 6 years old. Data suggest that, while it was more difficult to confirm injuries as abuse in the youngest

children, it was less likely that abuse was ruled out. More male than female victims were reported. However, a higher percentage of females was adjuged abused in every age group with the exception of two age groups: less than 1 year, and 14 to under 18 years. White children reported outnumbered Black children three to one. The injuries sustained by the youngest Black children were less likely to be classified as confirmed abuse than those sustained by the White children. Black children 10 years and older were adjudged abused more often than White children. The majority of the parents or parent substitutes of the injured children was over the age of 25, living with their spouse, and of low educational and occupational level. A statistically significant association was found to exist between sex of the perpetrator and case status. In cases in which females were indicated as perpetrators, injuries were less likely confirmed as abuse and more likely ruled out as abuse than when males were involved. The association between sex of perpetrators and sex of injured children was also statistically significant. Perpetrators tended to injure children of their own sex more than children of the opposite sex. A statistically significant association was found to exist between time of incident and seriousness of injuries. The time of serious and fatal injuries was reported unknown more often than the time of injuries which were not serious. Serious injuries for which time of occurrence was ascertainable were more likely than nonserious injuries to have occurred during the early morning. Injuries that were not serious occurred most often during the late afternoon and evening.

Duration: Spring 1973-completed.

Cooperating group(s): Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare.

Publications: *Child abuse in the Southeast: Analysis of 1172 reported cases* is available from the investigator.

34-RH-3 FOLLOW-UP OF TRAUMATIZED CHILDREN

Investigator(s): Elizabeth Elmer, M.S.S., Director, Community Services, Pittsburgh Child Guidance Center, 201 DeSoto Street, Pittsburgh, Pennsylvania 15213; John B. Reinhart, M.D., Director, Psychiatric Clinic; and Sue Evans, M.S.W., Director, Suspected Child Abuse or Neglect, Children's Hospital of Pittsburgh, 125 DeSoto Street, Pittsburgh, Pennsylvania 15213.

Purpose: To compare abused children with children who have been in accidents 8 years after they were studied as infants.

Subjects: Experimental Group: 18 abused children and 18 children who have been in accidents. Control Group: Children with no record of abuse and no history of infant accident matched with the experimental group on hospital status (i.e., outpatient vs. inpatient, length of stay in hospital). All subjects are ages 8 to 10, primarily from low socioeconomic status families, and matched on sex and race.

Methods: Families are interviewed in their homes to obtain a family history, views of the child, and a history of separations. Children are seen in the laboratory for pediatric screening, language evaluation, self-concept evaluation, and a measure of activity level. Also, role play sessions, using puppets to act out stories, will serve as an indication of empathy, aggressive impulses, and frustration tolerance. Abuse, accident, and control groups will be compared on physical health, health history, language development, self-concept, activity level, and indications of aggressive impulses, frustration tolerance, and empathy.

Duration: July 1974-June 1975.
Cooperating group(s): Maternal and Child Health Service, Bureau of Community Health Services, Health Services Administration, Public Health Service, U.S. Department of Health, Education, and Welfare.

34-RH-4 A STUDY OF CHILD ABUSE

Investigator(s): Dean D. Knudsen, Ph.D., Associate Professor, Department of Sociology and Anthropology, School of Humanities, Social Science, and Education, Purdue University, West Lafayette, Indiana 47907.
Purpose: To obtain background information on high risk parents in order to develop a future child abuse study.
Subjects: Cases of abuse of boys and girls under 18 reported to the Department of Public Welfare.
Methods: Methods include examination of Department of Public Welfare records of child abuse reports and investigation and service to families with abused children.
Duration: June 1974-January 1975.

34-RH-5 PERSONALITY CHARACTERISTICS OF ABUSIVE AND NEGLECTING MOTHERS

Investigator(s): Linda M. Floyd, M.A., Psychology Intern, Central Louisiana State Hospital, Box 31, Pineville, Louisiana 71360.
Purpose: To study mothers who either abuse or neglect their children; and to describe the mothers in terms of their family relationships, self-esteem, community relationships, and attitudes towards their children.
Subjects: Experimental group: 16 abusive and 16 neglecting mothers (referred by the Baton Rouge Department of Public Welfare or the Baton Rouge Child Protection Center), both Black and White, and from varying socioeconomic classes and educational backgrounds. Control group: Black and White mothers with children in the Earl K. Long Memorial Hospital and with no history of abuse or neglect.
Methods: Individual testing was used with half of the testing conducted in the homes and half in the hospital. Instruments used include the Family Concept Inventory, Mainfest Rejection Scale, Fundamental Interpersonal Relations Orientation-Behavior, Thematic Apperception Test, and clinical interviews. Neglecting and abusive mothers were compared. Multivariate analysis of variance was used.
Duration: June 1974-February 1975.
Cooperating group(s): Earl K. Long Memorial Hospital; Baton Rouge Child Protection Center; Louisiana State Division of Family Services; Department of Psychology, Louisiana State University.

34-RH-6 FAMILY LEARNING CENTER

Investigator(s): Margaret Nicholson, M.S.W., Director; Susan Pass, M.S., Researcher, Family Learning Center, P. O. Box 669, Westminster, Colorado 80030; and George

Kawamura, M.S.W., Supervisor, Social Services, Adams County Department of Social Services, Commerce City, Colorado 80022.

Purpose: To increase referrals of abused and neglected children, to increase treatment and treatment effectiveness, and to provide for the utilization and dissemination of project data.

Subjects: Approximately 400 child abuse referrals per year. Children's ages range from birth to 12. Abusive parents are also involved.

Methods: Quantitative, descriptive methods are being used to describe program results and meet project objectives of program monitoring and evaluation. Each component of the child abuse program utilizes a different method of data collection (e.g., worker observation, forms, and participant evaluation). Data are collected on a monthly basis. The outcome of this study will be an evaluation of the effectiveness of the various program components in dealing with child abuse in a coordinated, community-wide effort.

Duration: August 1974-May 1977.

Cooperating group(s): Berkeley Planning Associates.

Publications: A procedures manual will be published at the end of the project.

34-RH-7 CHILD ABUSE AND NEGLECT PROGRAMS UNDER MENTAL HEALTH AUSPICES

Investigator(s): Monica B. Holmes, Ph.D., Senior Research Associate, Center for Community Research Applications, Inc., 1560 Broadway, Suite 1214, New York, New York 10036.

Purpose: To conduct a literature review of the psychosocial dynamics of child abuse and neglect and its treatment; to gain an understanding of selected mental health auspice child abuse and neglect service programs in terms of their history, service relationships with the community and client families, services, and successes; and to produce a monograph synthesizing data collected on site and through the literature review.

Subjects: Eight exemplary child abuse and neglect programs under mental health auspices which have been in operation a minimum of 2 years and have an active caseload of at least 30 families.

Methods: On-site interviews will be conducted with each program's staff. Data will also be collected from program case records. In addition, interviews will be held with adminstrators and staff of up to 10 relevant agencies working within a program's area of service.

Duration: July 1974-June 1975.

34-RH-8 A LONGITUDINAL STUDY OF PHYSICALLY ABUSED CHILDREN

Investigator(s): James Kent, Ph.D., Assistant Professor; James Apthorp, M.D., Associate Professor; William Bucher, M.D., Associate Professor; Howard Hansen, M.D., Associate Professor; and Barbara Korsch, M.D., Professor, Department of Pediatrics, School of Medicine, University of Southern California, University Park, Los Angeles, California 90007.

Purpose: To improve intervention and follow-up procedures for physically abused children, including nonaccidental injury and severe neglect syndromes; and to accumulate

data that will contribute to a better understanding of the factors that make it an acceptable risk to return a child to his parents.

Subjects: Experimental group: 70 children identified as victims of neglect or nonaccidental injury during the second year of the study. Control group: 70 children identified as victims of neglect or nonaccidental injury 12 months before the follow-up examination; and 70 children identified as victims of neglect 24 months before the follow-up examination. All subjects will be seen at Childrens Hospital of Los Angeles. Criteria for nonaccidental injury are children reported as suspected cases of inflicted injury which are confirmed by legal decision in the juvenile court. Criteria for neglect are children who are under the third percentile for height and weight, have no evidence of organic disease to account for this finding, and who gain at least an ounce a day for 7 days for some period during hospitalization.

Methods: A modification of an equivalent time-series design will be employed. The control group will be examined retrospectively and cross-sectionally; the experimental group, examined longitudinally. Objectives of the study are (1) to assess the effectiveness of current intervention procedures to the needs of physically abused children and their families by following up and evaluating the control group children, (2) to examine the factors associated with differences in outcome (personal, social, and demographic characteristics of child and family at the time of abuse; legal interventions; welfare and other services utilized), and (3) to develop profiles of high and low risk cases related to outcome. To organize intervention and follow-up procedures to effectively use existing professional resources, the risk profiles from the first phase will be used (1) to classify experimental children initially, (2) to identify early cases that will need special attention, and (3) to plan services. Profiles consist of sets of predictor (independent) variables shown to be statistically associated with child outcome. Initial variables include physical and psychological data on the child and socioeconomic and psychological parental data at the time of the child's admission, and circumstances of the abuse; later variables include legal, social welfare, and therapeutic interventions. The treatment program is based on the premise that the factors, which make up an abuse-prone environment, are not identical or equally important across cases. The program is intended to produce (1) more rapid and collective decisions regarding placement (i.e., home or foster care) of the child, and (2) a more effective treatment program for the parents. Treatment of both experimental and control groups will involve medical, legal, social welfare, and mental health services. In addition, treatment for the experimental group will involve (1) an inservice training program to provide a forum for special problems, review of county resources, and support for Department of Public Social Services (DPSS) dependency workers involved in child abuse cases; (2) a therapeutic team that treats and supervises abuse cases to evaluate progress and advise the DPSS dependency worker who recommends initial placement; (3) a strong and diversified therapeutic program for parents, self-help groups, and advocacy programs for socioeconomic problems; (4) therapy with the children; and (5) home visits, primarily for the neglect group. Foster status of children will be resolved as soon as possible. Possible risks of continued foster care will be considered as well as potential risks of further physical abuse. Finally, the experimental and control children's outcomes will be compared, risk profiles will be revised, and the results of the study will be incorporated into the standard child abuse intervention routines. Baseline and outcome assessments will be made of the children's physical growth and health; neurological status; physical development and coordination; motor and intellectual development (Bayley Scales of Infant Development, Stanford-Binet Intelligence Scale, Wechsler Intelligence Scale for Children); social maturity (Vineland Social Maturity Scale, Pre-School Attainment Record); and emotional adjustment (study team and teacher

ratings, projective tests). A biographical interview will be conducted with the parents. (This involves a social history with open-ended questions in a fixed interview schedule.) Circumstances of the abuse will be obtained. Modified versions of the Parent Attitude Research Inventory and the Maternal Personality Inventory will be used. In addition, the Minnesota Multiphasic Personality Inventory, Rorschach Inkblot Test, and clinical ratings will be used for parental personality assessment. Outcome assessment will include (1) anecdotal record of parental responsiveness to contact, parental initiative in fostering change, and parental capability for nurturing and protecting the child; (2) an evaluation of parent-child interaction with the Inventory of Home Stimulation; (3) child progress (if replaced in the home); and (4) a list of the kinds of socioeconomic and therapeutic resources used for each parent and child. Analysis of variance will be used for between-groups analysis of children. All analyses will be conducted with nonaccidentally injured and neglected children as separate groups and pooled, in order to investigate the differences between diagnostic groups. Statistical methods used in profile development will be intercorrelations of variables, index construction through factor or cluster analysis, and multiple regression analysis. Other analyses will focus on looking for differences in outcome due less to differences in treatment than to differences in physical and psychological condition of the children at the time of admission.

Duration: Winter 1973-summer 1977.

Cooperating group(s): Los Angeles County Department of Public Social Services; Children's Protective Services Center, Hawaii; Childrens Hospital of Los Angeles.

34-RH-9 PARENT AND CHILD EFFECTIVE RELATIONS PROJECT (PACER)

Investigator(s): Charlene G. Bennet, M.S.W., Project Director; Raymond L. Edwards, Ph.D., Executive Director; and William M. Michaels, M.A., Research and Evaluation Consultant, Juvenile Welfare Board, 3455 First Avenue South, St. Petersburg, Florida 33711.

Purpose: To demonstrate that child abuse may be reduced significantly by early identification of adults at risk of abusing their child and by the provision of a variety of supportive services.

Subjects: 100 new parents.

Methods: This is one of 11 child abuse demonstration projects that focus on preventive strategies. The projects are jointly sponsored by the Office of Child Development, Community Services Administration, and the Bureau of Health Services Research. Preventive strategies include training of child care providers for purposes of early case finding and referral of parents at risk, establishing public awareness activities, counseling intervention, developing a child trauma medical registry, and developing an interdisciplinary child trauma team. Research approaches include before and after comparisons of abuse reporting, type of abuse, recidivism, cost of hospital treatment, and the development of and use of predictive instruments. Predictive instruments are based on the work of Vincent J. Fontana, Harris D. Riley, Jr., Barton D. Schmitt, Henry C. Kempe, Marian G. Morris, and others.

Duration: May 1974-May 1977.

Cooperating group(s): Office of Child Development, U.S. Department of Health, Education, and Welfare; Community Services Administration; Bureau of Health Services Research; Berkeley Planning Associates; Division of Family Services, Florida.

Publications: The progress report and final report will be available from the Juvenile Welfare Board.

34-RI-1 WORK AND WELFARE: A STUDY OF WOMEN IN THE AID TO FAMILIES WITH DEPENDENT CHILDREN PROGRAM

Investigator(s): Donald J. Bogue, Ph.D., Professor; and Judith R. Mayo, Ph.D., Assistant Professor, Community and Family Study Center, University of Chicago, 1411 East 60th Street, Chicago, Illinois 60637.

Purpose: To discover why women move on and off the welfare rolls and in and out of the labor force; and to explore the relationship between work and welfare and factors affecting this relationship.

Subjects: 400 women in the Aid to Families with Dependent Children Program in Cook County, Illinois.

Methods: A stratified sample of continuous, new, and mobile cases was interviewed twice by professional interviewers. Case records of the Cook County Department of Public Aid were analyzed. A variety of statistical analyses were done, including contingency table analysis, multiple regression, and analysis of variance.

Duration: August 1973-completed.

Cooperating group(s): Cook County Department of Public Aid.

Publications: The study is available from the Community and Family Study Center.

HEALTH SERVICES

34-SA-1 ILLNESS AMONG CHILDREN: 1969-1973

Investigator(s): Marion Johnson Chabot, M.D., M.P.H., Research Specialist; and Joseph Garfinkel, M.P.H., Biostatistician, Maternal and Child Health Program, School of Public Health, University of California at Berkeley, Berkeley, California 94720.

Purpose: To update and compile national data on the health status of children and youth for the field of maternal and child health; to compare data from the National Interview Survey 1969-1971, National Examination Survey 1962-1970, and the Hospital Discharge Survey 1970 with data from the National Health Interview Survey 1959-1961 and other studies.

Methods: Current and past studies of the health of United States children will be collected and assembled into a comparative study. The major source of information will be the U.S. National Health Interview Survey, based on information collected by continuous questionnaire sampling of households in the noninstitutionalized population. Information obtained consists of personal and demographic characteristics, illnesses, injuries, impairments, chronic conditions, and other health areas. Another major source of information will be published, the National Health Examination Survey data, which are based on direct examination, testing, and measurement of a representative probability sample of the civilian, noninstitutional U.S. population. Published reports provide estimates of the medically defined prevalence of specific diseases in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics. An additional source of information will be the National Hospital Discharge Survey, a survey of a national sample of noninstitutional general and specific short-stay hospitals (where average length of stay is less than 30 days). This information will be abstracted from hospital medical records of a systematic sample of inpatients. The study will be done in three phases. The first phase of the study will document the present health status of children and youths using the most recent data available and will make comparisons between children in the 1959-61 period (Schiffer and Hunt, 1963) and the 1968-71 period. Aspects of health status to be compared include acute conditions among children according to diagnoses, place of residence, region, amount of bed disability, days lost from school, injuries, and amount of activity restriction. Chronic conditions among children will be compared according to age, sex, income, residence, medical attention, and activity restriction. Hospitalization of children will also be studied, comparing rates of hospitalization; length of stay; number of hospital episodes; type of hospital; social, economic, and geographic characteristics; and condition for which hospitalized. In the second phase of the study, data obtained from the National Health Examination Survey will be compared with data from the National Health Interview Survey. The third phase of the study will consist of selected comparisons of data concerning low income children surveyed in the National Health Interview and Examination Surveys with other studies of specific low income groups. This portion of the study will present the effects of such factors as socioeconomic level on patterns of illness in children and youth.

Duration: June 1973-October 1974.

34-SA-2 HEALTH ADVOCACY TRAINING PROJECT

Investigator(s): Susan S. Aronson, M.D., Assistant Professor, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pennsylvania 19129; and Leona Aiken, Ph.D., Professor, Graduate School, Temple University, Philadelphia, Pennsylvania 19122.
Purpose: To evaluate and improve the health components in child care programs.
Subjects: 154 voluntary child care programs and family homes, private and federally funded. Programs include infant-toddlers, and preschool, school-age, exceptional, and handicapped children.
Methods: Prior to a 12-day training course (1 day a week, 12 weeks), instruments are administered to tap various aspects of each day care program's health component, including the trainees' and supervisors' perceptions of the trainee's role and the trainee's health knowledge and health opinions. Following the training course, the trainee's knowledge and opinion evaluation is repeated immediately. In addition, the entire battery of instruments is readministered 1 year after the first contact with each program. In order to assess the impact of the evaluation and changes in availability of health services, a separate contrast group will not receive training but will receive all the evaluations.
Duration: July 1973-July 1976.
Cooperating group(s): Office of Child Development, Office of Human Development, U.S. Department of Health, Education, and Welfare.

34-SB-1 FACTORS ASSOCIATED WITH IDENTIFICATION AND TREATMENT OF HYPERACTIVE CHILDREN

Investigator(s): Nadine M. Lambert, Ph.D., Associate Professor; Wilson Yandell, M.D., Lecturer, School of Education, University of California at Berkeley, Berkeley, California 94720; and Jonathan Sandoval, Ph.D., Assistant Professor, Department of Education, University of California at Davis, Davis, California 95616.
Purpose: To study the school and environmental characteristics of children before, during, and after they are identified by physicians as having hyperactive-learning-behavior disorders; to establish incidence and prevalence figures for hyperactivity; and to explore medical and school correlates of this condition.
Subjects: 200 classrooms of children, kindergarten through grade 5, randomly selected from public and private schools in the San Francisco and East Bay areas.
Methods: School data are collected concerning the cognitive and affective behavior of all children in the sampled classrooms. Instruments include a set of screening materials developed by Lambert and Bower, which consists of a primary grade self-concept measure, "The Picture Game"; a primary grade peer rating, the "Who Could This Be Game"; and an upper elementary grade combination self-concept measure and peer rating measure, "Directing the School Play." In addition, teachers complete a behavior rating scale, a hyperactive behavior checklist, and a questionnaire concerning their attitudes towards various aspects of hyperactivity and their philosophy of classroom teaching. After initial data collection, subjects (first seen by physicians for problems including hyperactivity) will be followed through diagnostic and treatment procedures and in the classroom. Standard diagnostic data are collected for these children, and clinicians are quizzed about their attitudes towards hyperactive conditions. As well as being examined by physicians, identified children will be observed and evaluated in school during and following institution of the treatment program. The parents of identified children will be interviewed with a

structured interview in order to learn about the child's early development and temperament and the family's childrearing practices.
Duration: September 1973-September 1975.
Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U.S. Department of Health, Education, and Welfare; Alameda-Contra Costa Medical Association; Alameda County Schools; Contra Costa County Schools; Oakland Archdiocese Schools.

34-SC-1 ORAL HYGIENE HOME CARE KITS: EFFECTS ON THE DENTAL BEHAVIOR OF KINDERGARTEN CHILDREN

Investigator(s): Elizabeth A. Fanning, D.D.S., Reader in Preventive Dentistry; and P.I. Leppard, M.S.C., Statistical Consultant, University of Adelaide, Adelaide, South Australia 5001, Australia.
Purpose: To examine the influence of oral hygiene home care kits on the dental care behavior of children.
Subjects: 1,084 children: 575 boys and 509 girls, ages 3 to 6, who attend preschool centers in South Australia.
Methods: This study examined one aspect of a continuing dental health care study of preschool children. Kits containing an approved toothbrush, dentifrice, disclosing tablets, and an instruction leaflet were issued to the experimental group only. Identical questionnaires were issued to all participants for completion by parents. After a period of months, kits were reissued and identical questionnaires were sent to the same parents. The first and second questionnaires from each individual were matched and examined to determine changes in dental behavior.
Findings: Issuance of dental care kits significantly increased the percentages (approximately 14, 20, and 12 percent) of children who changed to the approved dentifrice, brush, and disclosing tablets.
Duration: 1972-1976.
Cooperating group(s): The Kindergarten Union of South Australia, Inc.; Australian Dental Association, South Australia Branch, Inc.; Colgate-Palmolive Pty. Ltd.

34-SD-1 DRUG ADDICTED INFANTS IN MASSACHUSETTS

Investigator(s): Leo F. Friel, M.S.S.W., Associate Director for Community Organization; and Margaret B. Saltonstall, A.B., Community Organization Specialist, Massachusetts Committee on Children and Youth, 9 Newbury Street, Boston, Massachusetts 02116.
Purpose: To document the extent of the problem of drug addiction among mothers and their newborn infants; to describe new ways of working with this segment of the population; and to recommend specific ways of protecting infants and improving services for infants and mothers.
Subjects: 55 heroin addicted mothers and 40 infants born to heroin addicted mothers.
Methods: A questionnaire and letter were mailed to chiefs of obstetrics and chiefs of pediatrics in 73 hospitals in Massachusetts to ascertain the number of heroin addicted

infants born during 1972. A social history information sheet and medical history information sheet were used for abstracting case histories of mothers and infants.
Findings: A significant problem exists with drug addicted mothers and their infants. Numbers are on the increase. An acceptable medical and social plan must be developed to provide ongoing care.
Duration: September 1972-completed.
Publications: *Drug-addicted infants in Massachusetts,* by the investigator, is available from the Massachusetts Committee on Children and Youth for $1.75 per copy.

34-SD-2 THE EPIDEMIOLOGY OF SUDDEN INFANT DEATH (SIDS) IN SOUTHEASTERN ONTARIO

Investigator(s): Robert Steele, M.D., Professor, Department of Community Health and Epidemiology, Queen's University, Kingston, K7L 2N6, Ontario, Canada.
Purpose: To investigate the epidemiology of sudden infant deaths in Southeastern Ontario, with special emphasis on maternal pre- and postnatal nutrition and on infant nutrition, in order to determine the contributing factors and to devise screening criteria for selection of high risk babies.
Subjects: All infants, ages 28 days to 1 year, who die suddenly and unexpectedly and whose death on autopsy cannot be attributed to a pathological cause, from a sample population of four million people in Southeastern Ontario.
Methods: The investigator is notified of all confirmed SIDS cases. Each SIDS case is matched to a control infant by sex, date of birth, and geographical location. Families of the case and control infants are interviewed by a medical research assistant. The interview consists of (1) general information and socioeconomics, (2) history of previous pregnancies, (3) history of index pregnancy, (4) antenatal care of index pregnancy, (5) dietary changes (supplements of mother during index pregnancy), (6) outdoor exposure of mother during index pregnancy, (7) history of health and illness of index infant, (8) history of medical supervision of index infant, (9) history of immunization of index infant, (10) history of milk feeding of index infant, (11) vitamin and mineral supplements of index infant, (12) addition of foods to diet of index infant, (13) history of sleeping and eating patterns of index infant, and (14) outdoor exposure of index infant. Special emphasis is placed on the 2 weeks preceding the death of the case infant. Specific aut. psy samples from the case infant are also obtained.
Duration: March 1974-continuing.
Cooperating group(s): Hospital for Sick Children, Toronto, Ontario, Canada.

34-SD-3 BEHAVIOR, PARENTING, AND OUTCOME OF HIGH RISK INFANTS

Investigator(s): James Kent, Ph.D., Psychiatrist; Arnold Platzker, M.D., Director; Angeles Ramos, M.D., Associate Neonatologist; and Janice Mayes, B.S., Nurse Coordinator, Neonatal-Respiratory Care Division; Barbara M. Korsch, M.D., Consultant; and Vida Negrete, M.S., Doctor-Patient Communication; and Howard Hansen, M.D., Head, Division of Psychiatry, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, California 90027.

Purpose: To study the developmental outcome of high risk neonates (defined as neonates with complications that necessitate hospitalization, interfere with normal parent-infant experiences after birth, and put the infant at risk for deficits in development and parenting) transported to the Childrens Hospital of Los Angeles because of prematurity or congenital anomalies; and to explore what action can be taken to prevent or modify adverse sequelae of these experiences for the infant and family by identifying the key conditions and experiences of the neonate and parents that are subject to modification and contribute to child outcome.

Subjects: 25 premature and 25 term infants with surgical congenital anomalies (e.g., omphalocele, tracheosophageal fistula) transported to the Childrens Hospital of Los Angeles within hours of birth. The premature group is divided into infants with respiratory distress syndrome and those with normal respiratory function. Criteria for inclusion in the study: the family lives within reasonable driving time of the hospital, agrees to bring the infant for examination at 3, 6, 9, and 12 months, and agrees to the terms of the assessment protocol.

Methods: The objectives of the first stage of the study, a pilot project, are to (1) identify key hospital experiences of the parents of high risk children that seem to influence subsequent parenting behaviors and attitudes, particularly on the part of the father; (2) identify some characteristics of a neonate's physical status, associated care, and reaction patterns that seem either to elicit or influence parenting behaviors and attitudes or to contribute directly to his subsequent development; (3) identify some common characteristics of the attitudes and parenting behaviors of the parents of high risk children as measured by standard tests and observations of parent-child interaction; (4) explore the relationships among objectives (1), (2), and (3); (5) explore relationships between the parenting behaviors and a child's developmental progress; and (6) develop a profile of the factors that seem to dispose certain infants within the total high risk group towards a poorer developmental outcome and increased risk of deviant parenting. The profile of factors will include fixed factors (such as particular congenital complications) and modifiable factors, provided that they are recognized early enough as risk factors (e.g., parental attitudes towards these special infants, misinterpretation of the significance of the infants' behavioral characteristics, the degree of parents' involvement in infant care while in the hospital, the initial role of the father as the primary parent, and general parenting behaviors and attitudes that may be inappropriate to the infants' needs). The second stage of the study will involve an active intervention program based on the findings of the first stage.

The hypotheses: The treatment program (1) will enhance positive parental attitudes and behaviors, and (2) will modify the developmental risk of certain infants identified as particularly vulnerable within the total high risk group. Data assessment is planned in three areas: infant physical and behavioral characteristics, parenting attitudes and behaviors, and infant development. Infant characteristics: Characteristics of the infant's state, which may affect his developmental progress and/or influence parenting behaviors, will be documented on individual flow charts. Infant reactivity will be assessed quarterly with the Survey of Temperament Characteristics. Parents will be interviewed together about their infant's behavioral characteristics or physical conditions that they deem make caretaking easy or difficult. During the infant's hospitalization, efforts will be made to develop reliable measures of infant reactivity in order to identify individual differences that can be correlated with concurrent and later parental attitudes and behaviors. Reactivity will be assessed by autonomic changes and gross behavior ratings based on changes in body movements. Time samplings of the infants' state will be made using the Prechtl-Beitema Scale. Neurological maturation and integrity will be evaluated weekly using the Dubowitz Scale. Parenting attitudes: During the course of the infant's hospitalization,

some key events will be recorded; e.g., initial visit by each parent, parents' reactions to and questions about equipment and procedures (especially gavage feeding), reactions to physical anomalies, the first physical contact with the infant. A complete record will be kept of the number of and frequency of parental visits and telephone calls. A detailed family history will be obtained on both parents including patterns of dominance in the maternal family, sexual maturation, attitudes on childbearing and rearing, and pregnancy experiences. Questionnaires include the Parental Attitude Research Instrument and the Maternal Personality Inventory. Three in-depth assessments of child and family interaction at about ages 3, 9, and 12 months are also planned. Certain crucial incidents in the infant's life and interaction with his parents will be videotaped for rating the behaviors. Incidents include feeding behavior, the infant interacting with each parent in a social situation, the infant undergoing a painful procedure and the parents engaging in comforting or other spontaneous behavior, and an incident involving separation. Infant development: Data will be obtained from the Bayley Scales of Infant Development. Since more information is being collected than could meaningfully be analyzed with a sample of only 50 infants, and since the number of independent variables may exceed the number of infants within a diagnostic group, the analysis of data will be focused on discovering relationships among variables rather than testing for statistically significant differences between subgroups of infants and parents.

Duration: October 1974-continuing.

Cooperating group(s): Maternal and Child Health and Crippled Children's Services, Health Services Administration, Public Health Service, U.S. Department of Health, Education, and Welfare.

34-SE-1 FERTILITY AND FAMILY PLANNING IN TAIWAN

Investigator(s): Ronald Freedman, Ph.D., Professor; Albert I. Hermalin, Ph.D., Associate Professor; Lolagene C. Coombs, M.A., Research Associate; and Baron Motts, Ph.D., Research Associate, Population Studies Center, University of Michigan, 1225 South University, Ann Arbor, Michigan 48104.

Purpose: To study various aspects of Taiwan's demographic transition from high to low fertility.

Subjects: 5,800 married women, ages 20 to 39; and 2,500 women who had an intrauterine device (IUD) inserted 9 to 11 years ago in a Taiwan family planning program.

Methods: Several studies are being conducted. In addition to data obtained from sample surveys for 1965, 1967, 1970, 1971, and 1973, data is available from population registers for 361 local areas of Taiwan. Time series of both survey and official demographic data for samples of individuals and areas is unique for a developing country.

Findings: Findings from 1965 to 1970 indicate that fertility fell rapidly and contraception was adopted by all strata of the population, including the illiterate, before any change occurred in desired numbers of children and in response to lower mortality. Now the desired family size is falling too.

Duration: 1962-1977.

Cooperating group(s): Committee on Family Planning, Taiwan Provincial Health Department; Population Division, Ministry of Interior, Republic of China.

34-SF-1 STUDY OF REPORTED IMPACT OF CHILDREN AND YOUTH PROJECTS ON HOSPITAL AND MEDICAL SCHOOL HOST AGENCIES

Investigator(s): Helen M. Wallace, M.D., M.P.H., Professor; Allan C. Oglesby, M.D., M.P.H., Associate Clinical Professor; and Hyman Goldstein, Ph.D., Research Biostatistician, Maternal and Child Health Program, School of Public Health, University of California at Berkeley, Berkeley, California 94720.

Purpose: To study the impact of children and youth projects on host agencies; in particular, when the host agency is a hospital or medical school.

Subjects: Administrators of 36 hospitals or medical schools that are host agencies of children and youth projects throughout the United States.

Methods: A questionnaire was developed with the assistance of three pediatricians. The questionnaire focused on changes related to the presence of the children and youth project in each agency, including personnel changes, changes in services provided, innovations and/or additions to educational programs for professional and nonprofessional personnel, administrative changes, and the influence of the project on the plans of the host agency. The study form was pretested, questionnaires were mailed to administrators, and follow-up mailings and telephone calls were made.

Findings: Excluding five refusals, the response rate was 75 percent. Preliminary analysis showed that there were significant changes in the administration of two-thirds of the host agencies, such as the full-time appointment of a director and assistant director of ambulatory care, the employment of an associate director of the hospital with primary responsibility for outreach, or formal affiliation with another community hospital. About half of the host agencies plan to add new equipment to their facilities, while only one-third have plans to build new physical facilities or to expand or renovate existing facilities. Only one-fourth of the responding agencies plan to add new personnel and one-third plan to add new training programs; e.g., pediatric nurse practitioner and physician assistant. Host agencies have developed a new awareness of the institution's obligation to provide comprehensive health services to the low income communities they serve. This has resulted in the development and expansion of ambulatory and emergency services to disadvantaged children and youth. This has also brought about community involvement in health care delivery, general improvement of the quality of all outpatient services, and experimentation in different methods of delivery of ambulatory health care and outreach. Increased awareness of the value of preventive health services has resulted in more comprehensive care of children, and as these services have been implemented, the inpatient population has decreased. The influence of children and youth projects in some institutions has stimulated and made possible more rapid growth of clinical services as well as the expansion of teaching programs and research. The overwhelming majority of the responding host agencies indicated that services would not be continued at the same level if federal funds were not available for children and youth projects. The majority stated that care comparable to that being provided by the children and youth project would not be available elsewhere in the community for children now being served by these projects.

Duration: June 1973-April 1974.

34-SF-2 STUDY OF HOSPITAL FACILITIES FOR THE CARE OF INFANTS, CHILDREN, AND YOUTH

Investigator(s): Helen M. Wallace, M.D., M.P.H., Professor; Hyman Goldstein, Ph.D., Research Biostatistician; Alfred C. Hexter, M.A., Biostatistician; and Allan C. Oglesby, M.D., M.P.H., Associate Clinical Professor, Maternal and Child Health Program, School of Public Health, University of California at Berkeley, Berkeley, California 94720.
Purpose: To study the trends in hospitalization and the present status of inpatient and outpatient hospital care of infants, children, and youth in the United States; and to study various aspects of hospital pediatric departments.
Subjects: Pediatric directors at hospitals that are approved for pediatric residency training in the United States; and a six percent sample of all other hospitals in the United States.
Methods: A study form was developed and pretested. Included in the areas studied were (1) the age group(s) included under care of hospital pediatric departments; (2) the extent to which hospital pediatric departments provide comprehensive child health care, are affiliated with community health and welfare agencies, and are using allied health manpower; (3) the reasons for hospitalization of children; (4) admissions to hospital pediatric services; selected aspects of staffing patterns; (5) selected fiscal aspects, including budgets, costs per diem care of outpatient visits, and sources of funds; and (6) the geographic distribution of funds. The form was distributed to the sample hospitals, and follow-ups were made. The investigators suggest that the documentation of the extent of the swing from hospitalization to ambulatory care for children and the role that the emergency room plays in outpatient care should be of importance in indicating expectations of costs involved in hospital and hospital related facilities for child health and medical care.
Duration: April 1973-October 1974.

34-SF-3 MOBILE UNIT FOR CHILD HEALTH SUPERVISION

Investigator(s): Margaret F. Gutelius, M.D., Chief Investigator, Mobile Unit for Child Health Supervision and Infant Education, Children's Hospital of the District of Columbia, Washington, D.C. 20009.
Purpose: To evaluate the effects of optimal child health supervision provided during children's first 3 years of life; and to evaluate an infant stimulation program implemented through parent counseling of underprivileged families.
Subjects: 45 firstborn Black infants and a comparable cohort of 45 control infants from disadvantaged families living in the environs of Children's Hospital, Washington, D.C.
Methods: Optimal well child care is provided by a physician and nurse at the infant's home in a mobile clinic during the infant's first 3 years. The stimulation program is conducted by a nurse at a separate home visit. Information is collected annually according to precoded questions, including data on health, growth and development, behavior and social maturity, psychological tests, school progress, as well as data on the mother, family environment, and an observation period. The same data are collected for experimental and control children and are compared by appropriate statistical analysis.
Findings: Experimental children have better diets, fewer minor illnesses, and fewer behavior problems than control children. Increasingly significant differences are obtained

on development tests between experimental and control infants through age 3, but a decline in differences is obtained thereafter.

Duration: May 1965-May 1977.

Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U.S. Department of Health, Education, and Welfare.

34-SG-1 ASSESSMENT OF CHILD MENTAL HEALTH NEEDS AND PROGRAMS

Investigator(s): Barbara Sowder, Ph.D., Project Director, General Research Corporation, Westgate Research Park, 7655 Old Springhouse Road, McLean, Virginia 22101.

Purpose: To evaluate the impact of programs funded through Part F of PL 91-211 (Funding represents the first Congressionally authorized monies for child mental health services.); and to discover the incidence of disturbance among the 0 to 17 age population and mental health needs of parents and child care agencies and schools.

Subjects: 98 mental health centers including 57 Part F-funded and 42 nonfunded centers: 750 agency and school personnel.

Methods: Questionnaires and interviews were employed. Eleven different questionnaires were used to contact mental health centers and other child care institutions including preschools, schools, social services, and legal agencies. Mental health center questionnaires focused on the number of children served, indirect service hours, number of staff, training for staff, research, and community center relationships. Questionnaires to community agencies focused on services received from and provided to the centers, satisfaction with services, and the incidence of disturbance among the clientele of the child care institutions. Severe disturbance was defined as "needing immediate care from trained mental health workers," while less severe disturbance was defined as "needing attention from some experienced caregiver (e.g., mental health worker, social worker, pastoral counselor, tutor, etc.)." Examples of less severe disturbance were situational crises, behavioral problems, and learning disorders. Interviews were designed to probe the questionnaire problems in more detail. The survey design for centers was a before-after (Part F) design utilizing matched controls. Agencies and schools were randomly selected. Multi-ethnic teams spent a week at 25 centers gathering more detailed information on the variables discussed in questionnaires and interviews. Other centers were contacted by mail. Data treatment included analysis of variance and chi-squares to test the differences between centers that did or did not receive Part F funds and differences in service levels before and after funding. Descriptive statistics were used to analyze the field data from centers and community respondents.

Findings: Forty-three Part F-funded mental health centers, 31 nonfunded centers, and 721 agency and school personnel responded. Of the 25 centers studied in depth, 18 were Part F-funded. Eighty-eight percent of responding agencies and school principals (N = 316) were satisfied with the centers. Respondents (75 to 95 percent) thought that different types of mental health services were important; all desired more services. All respondents praised the innovative services provided through Part F funding. Because of the grants, the 18 centers have almost doubled staff and direct services and have more than tripled indirect services and research and evaluation efforts. The 25 centers, however, were not able to meet the needs estimated in the survey, which would have required 2,500 to 3,700 new staff. Epidemiological data from schools and agencies indicate that 2.7 percent of the 0 to 17 age population is severely disturbed, while 16.8 percent needs help for less severe disturbance. Individual parents (13 percent) of the 0 to 17 age population probably

need direct mental health services, while 23 percent needs indirect services. Incidence reports from teachers (calculated separately from agency/school reports) suggest that the incidence estimates on the 0 to 17 age population are conservative.

Duration: July 1973-February 1975.

Cooperating group(s): National Institute of Mental Health, Health Services Administration, Public Health Service, U.S. Department of Health, Education, and Welfare; American Public Health Association.

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OTHER ABSTRACTING JOURNALS AND SERVICES

Abstracts of Hospital Management Studies (quarterly), the Cooperative Information Center of Hospital Management Studies, University of Michigan, 220 East Huron Street, 419 City Center Building, Ann Arbor, Michigan 48108.

Abstracts on Criminology and Penology, Criminologica Foundation, Rapenburg 38, Leiden, The Netherlands.

Communication Disorders, Information Center for Hearing, Speech, and Disorders of Human Communication, The Johns Hopkins Medical Institutions, 310 Harriet Lane Home, Baltimore, Maryland 21205.

Current Index to Journals in Education (monthly), Macmillan Information, 866 Third Avenue, New York, New York 10022.

Dissertation Abstracts, University Microfilms, Ann Arbor, Michigan 48103. (Gives synopses of U.S. doctoral dissertations with an annual index.)

dsh Abstracts, Deafness, Speech and Hearing Publications, Gallaudet College, Washington, D.C. 20002.

Exceptional Child Education Abstracts (quarterly), The Council for Exceptional Children, Box 6034, Mid City Station, Washington, D.C. 20005.

Health Economic Studies Information Exchange, Division of Medical Care Administration, Public Health Service, Washington, D.C. 20402.

Index Medicus, National Institutes of Health. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Language and Language Behavior Abstracts (quarterly), Center for Research on Language and Language Behavior, University of Michigan, Ann Arbor, Michigan 48104. Order from Subscription Manager, LLBA, Meredith Publishing Co., 440 Park Avenue South, New York, New York 10016.

Mental Retardation Abstracts, Division of Mental Retardation, Social and Rehabilitation Service, 330 Independence Avenue, S.W., Washington, D.C. 20201. Concerning abstracts write to Lemar J. Clevenger, Project Administrator, MRA, American Association of Mental Deficiency, 1601 West Broad Street, Columbus, Ohio 43223 or Miss Patricia Thuben, Project Officer, Division of Mental Retardation, Rehabilitation Services Administration, Social and Rehabilitation Service, Washington, D.C. 20201.

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Psychological Abstracts, American Psychological Association, 1333 - 16th Street, N.W., Washington, D.C. 20036.

Rehabilitation Literature, National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612.

Research in Education (monthly), Computer Microfilm International Corporation, P.O. Box 190, Arlington, Virginia 22210.

Sociological Abstracts, 15 East 31st Street, New York, New York 10016.

The Educational Resources Information Center (formerly the Educational Research Information Center), better known as ERIC, supplies current research and research-related information to teachers, administrators, researchers, commercial organizations, and others. ERIC includes 16 clearinghouses, or documentation centers, located at universities and other institutions throughout the country. Each clearinghouse concentrates on a different subject matter area in the field of education. For complete information, write: Director of ERIC, National Institute of Education, Office of Dissemination and Resources, Washington, D.C. 20208.

ERIC Clearinghouse on Early Childhood Education, Publications Office, 805 West Pennsylvania Avenue, Urbana, Illinois 61801 publishes a quarterly newsletter; subscription, $2.00. Also available free, a List of Publications relating to children ages 0 through 8.

The Excerpta Medica Foundation, New York Academy of Medicine Building, 2 East 103rd Street, New York, New York 10029, and 119-123 Herengracht, Amsterdam C, The Netherlands has established an abstracting service on pediatrics, available on a yearly subscription basis. In addition to abstracts, the Foundation provides to subscribers, at cost, photocopies and translations of complete articles.

The Minnesota Family Study Center supplies to interested scholars bibliographic information from the Inventory of Published Research in Marriage and Family Behavior. Address requests to: Director, Inventory of Published Research in Marriage and Family Behavior, Social Science Tower 1026, University of Minnesota, Minneapolis, Minnesota 55455.

The Library of the National Easter Seal Society for Crippled Children and Adults has initiated a photoduplication service for persons engaged in rehabilitation research. It is available without charge to personnel in educational or research institutions and health or welfare agencies, public or private. This service may provide professional literature that is not available in local libraries. For further information, write: Librarian, National Easter Seal Society, 2023 West Ogden Avenue, Chicago, Illinois 60612.

The Science Information Exchange, Smithsonian Institution, 209 Madison National Bank Building, 1730 M Street, N.W., Washington, D.C. 20036 provides o qualified investigators, for a fee, selected abstracts of current research supported by foundation or government grants. The exchange covers such fields as medicine, nursing, public health, nutritior psychology, education, anthropology, mental health, and intercultural relations.

The Library of the National Bureau for Child Welfare (Voor Kinderbescherming), Stadhouderslaan 150, The Hague, The Netherlands publishes abstracts of articles in the field of child welfare each month. These are in Dutch, but those familiar with the Universal Decimal System would be able to understand something about the articles. The subscription rate for documentation on cards is 30 guilders (approximately $8.40).

RESEARCH RELATING TO CHILDREN
ERIC/ECE 805 West Pennsylvania Avenue
Urbana, Illinois 61801

If you are currently engaged in research on children or their families, we would appreciate your cooperation in providing a short summary of your work for inclusion in the next issue of *Research Relating to Children*.

The ERIC Clearinghouse on Early Childhood Education has been funded by the Office of Child Development to collect and disseminate information on current research relating to children and their families. It is the purpose of the clearinghouse to make such information available to research investigators and others concerned with research in child life.

The instructions on the third page of this form will serve as a guide for your summary. You will, of course, receive a free copy of the issue in which your study appears.

If you know of other researchers whose work might be of interest to the Clearinghouse, please give name(s) and address(es) below:

_____

_____

_____

_____

Thank you for your cooperation.

INFORMATION SUPPLIED BY

Name _____

Position _____

Organization and address _____

_____

_____

_____

City _____ State _____

Zip Code _____ Phone ( ) _____

SUMMARY OF RESEARCH PROJECT

TITLE:

PURPOSE:

SUBJECTS (Sample): (Please include number, age range, sex, description of subjects.)

METHODS: (Please discuss research design: control groups, methods of data collection, research instruments, unique features of research, statistical treatment.)

FINDINGS TO DATE:

DATE PROJECT INITIATED:		ESTIMATED TERMINAL DATE:
PRINCIPAL INVESTIGATOR(S):	DEGREE:	POSITION AND ORGANIZATION:

COOPERATING GROUPS: (In the research itself or in the research funding.)

PUBLICATION REFERENCES: (If no publication is planned, please indicate under what conditions data and results will be available.)

INSTRUCTIONS

Please report studies in progress or completed within the last year that:

center on children or their families in such areas as child growth and development, intelligence, personality, education, social adjustment, family life, physical and emotional disorders

concern service programs in the fields of child health, child welfare, or special education

Please DO NOT report:

animal studies

studies already published in sources generally available in major libraries across the country

demonstration projects, unless there is a formal plan for evaluation

regularly collected material such as annual reports, work preparatory to writing handbooks; directories

research based on secondary sources

Originally established in 1912, the Children's Bureau has consistently been concerned with all matters pertaining to the welfare of children and child life. In 1948, the Clearinghouse for Research in Child Life was established within the Bureau specifically to collect and disseminate information about current research relating to children. In July 1970, the ERIC Clearinghouse on Early Childhood Education, part of the national Educational Resources Information Center network, assumed the production of *Research Relating to Children*, a publication of the Bureau's Clearinghouse for Research in Child Life. The aims of this publication are consistent with the information analysis goals of the ERIC system. *Research Relating to Children* will provide information on current research relating to children and their families to educators, researchers and others in the area of child life who find the need for such a service.

Research Relating to Children
ERIC/ECE
805 West Pennsylvania Avenue
Urbana, Illinois 61801

The following investigators are doing research concerning children or services for children. Send report forms to obtain information.

Name _____

Address _____

_____ Zip Code _____

Name _____

Address _____

_____ Zip Code _____

Name _____

Address _____

_____ Zip Code _____

Signed _____

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PUBLICATIONS

Bibliography on the Battered Child, revised July 1969. Copies free from the Children's Bureau, Office of Child Development, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201.

Research Relating to Emotionally Disturbed Children, 1968. A listing of studies reported to the Clearinghouse between 1956 and 1967, including publication references. Single copies free from the Children's Bureau; also available *directly* from the Government Printing Office, Washington, D.C. 20402, for $1.00. Do *not* send money to the Children's Bureau.

Research Relating to Mentally Retarded Children, 1966 (reprinted 1968). A listing of studies reported to the Clearinghouse between 1948 and 1965, including publication references. Single copies free from the Children's Bureau; also available *directly* from the Government Printing Office for 65 cents. Do *not* send money to the Children's Bureau.

*Research Relating to Children.** An inventory of abstracts of ongoing or recently completed studies, published about every six months. Single copies of the following issues are available without charge from the ERIC Clearinghouse on Early Childhood Education. 805 W. Pennsylvania Avenue, Urbana, Illinois 61801. (Dates indicate period during which the studies were reported to us.)

Bulletin 21 (June 1966 — April 1967)
Bulletin 22 (May — December 1967)
Bulletin 23 (January — August 1968)
Bulletin 29 (September 1971 — February 1973)

Copies of the following issues are available for purchase *directly* from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402 at the prices indicated:

Bulletin 25 (April — December 1969) — $1.25
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Bulletin 28 (March 1971 — August 1971) — $1.50
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All issues not listed above are OUT OF PRINT but are available in many libraries.

*The principal investigator of each study receives a free copy of the issue of *Research Relating to Children* in which his study appears. A free copy of each issue is available to libraries and research centers.